

The Boston Medical and Surgical Journal

TABLE OF CONTENTS

May 30, 1918

ADDRESSES		EDITORIALS	
ROENTGENOLOGY IN THE AMERICAN ARMY. <i>By Frank Wheatley, Jr., M.D., North Abington, Mass.</i>	727	THE NURSING CRISIS.	752
THE PHYSICIAN AND PSYCHOLOGIST. <i>By J. Danforth Taylor, M.D., East Boston, Mass.</i>	730	CIVIL AND MILITARY MORTALITY.	753
ORIGINAL ARTICLES		URBAN AND RURAL HEALTH CONDITIONS.	755
RENAL AND URETERAL STONE. <i>By Benjamin Tenney, M.D., F.A.C.S., Boston.</i>	731	SURGERY IN THE AGED.	754
MOBILIZATION OF THE KNEE JOINT IN SUSPENSION-TRACTION TREATMENT OF FRACTURE OF THE FEMORAL SHAFT. <i>By G. A. Moore, M.D., Brockton, Mass.</i>	736	MEDICAL BOOKS AND PERIODICALS AT CAMP DEVENS.	755
MEDICAL PROGRESS		MEDICAL NOTES.	755
REPORT ON DERMATOLOGY. <i>By John T. Bowen, M.D., Boston.</i>	740	THE MASSACHUSETTS MEDICAL SOCIETY	
SOCIETY REPORT		NOTES FROM THE DISTRICT SOCIETIES.	760
COLLEGE OF PHYSICIANS OF PHILADELPHIA. MEETING DEC. 6, 1917.	746	CORRESPONDENCE	
BOOK REVIEW		ADDRESS BEFORE THE GOVERNOR OF NEW YORK AT THE HEARING ON THE BILL FOR A NARCOTIC DRUG COMMISSIONER. <i>John P. Davis, M.D.</i>	765
Manual of Splints and Appliances for Medical Department of the United States Army.	751	SURGICAL SYPHILIS IN THE EIGHTEENS. <i>William Pearce Coates.</i>	766
		MISCELLANY	
		MEETING OF STATE COMMITTEES OF THE MEDICAL SECTION OF THE COUNCIL OF NATIONAL DEFENSE.	760
		NOTICES, RECENT DEATHS, ETC.	766

Addresses.

ROENTGENOLOGY IN THE AMERICAN ARMY.

By FRANK WHEATLEY, JR., M.D., NORTH ABINGTON, MASS.,

First Lieutenant, Medical Reserve Corps.

ALTHOUGH I am not able to be in Brockton to fulfill the duties of the office that is usually delegated to the newer members of a medical society,—that of orator,—I feel that, possibly, you will not consider it entirely inappropriate that my efforts in this matter take the form of a letter describing the activities of my branch of the service. Such a letter will have the undeniable advantage of being short, as one's duties in the x-ray department, in addition to military activities, are such that there is little time for personal use. From 5.45 A.M. to 9.30 P.M. there are things that must be done, and between these two hours one has a pardonable desire to rest. Sunday he has an intense longing to get back to nature, especially during the wonderful spring weather which we now have at Chickamauga Park. However, that you may suffer properly for the sin you have committed in creating such an office, the orator of 1918 is sacrificing his spare time to that end. If, on his return, he

finds that the Plymouth District Society no longer has orations at its annual meeting, he will consider that his sacrifice was productive of a great good—not always, perhaps, to the Society as a whole, but certainly to the newer men who are in danger of being called upon to deliver one of these "gas attacks."

When it became certain that this country would enter the world-war, it was found that little preparation had been made for the use of x-ray in the army. It was also realized that, with the newer type of warfare, using shells with undreamed-of explosive power and bombs which produce extensive lacerations filled with dirt and shell fragments, we would need, more than ever before, the assistance of the Roentgen ray.

To meet the emergency caused by these new conditions, the Council of National Defense, working in conjunction with the American Roentgen Ray Society, called a meeting at New York to elaborate a program which would make the American army efficient in this respect.

As the situation was studied, it became more and more apparent that the need of such a program was great, and the committee became enthusiastic about the prospects of developing an organization which would render the greatest assistance to the surgeons in the war zone. Then the plans of the War Department for recon-

struction hospitals were made public, and more than ever before, the committee realized the responsibility placed upon it.

As the scope of the work developed, it became apparent that the x-ray apparatus available did not possess some very essential features which would make it adaptable for war use. It was too cumbersome, and there was little effort made toward standardization. Also there was need of a powerful portable outfit which would furnish its own power.

To overcome these difficulties a sub-committee was put to work, and these men, in association with the large apparatus manufacturers, evolved some absolutely new and very desirable machines—among them being the U. S. Army Bedside Unit, which uses a new type of Coolidge tube and develops a large amount of radiation from any electric light socket, and the U. S. Army Portable Field Unit which utilizes a simple gasoline engine for power. The latter outfit is the one most used in the zone of advance, and it gives opportunity to fluoroscope the entire body of the wounded shortly after the injury is received. An accessory being developed for the Bedside Unit is a stereoscopic fluoroscope which will allow the operator to obtain perspective. This feature will be of great aid while operating for foreign bodies, as the old-style fluoroscope gave simply a shadow picture.

It soon became plain that there were not enough x-ray men in the country to furnish the personnel required, even if every one were called, and the plan of instructing officers of the Medical Reserve Corps in this work was instituted. In a dozen large centers throughout the country, leading roentgenologists were detailed to start military x-ray schools—these schools being under the direct supervision of the Surgeon-General of the Army. Dr. (now Major) A. W. George, my own instructor, had charge of the Boston school which drew its men from the New England States. These schools were intended only to furnish men needed at once, and it was the intention to close them all after arrangements could be completed for their consolidation at Oglethorpe. This work is now finished, and all the schools will be closed shortly except the one here with which I am connected.

It may be interesting to you to know that the plans of the Surgeon-General contemplate the founding of the greatest medical training school in the world, here at Oglethorpe—a permanent organization having for its instructors

men of international standing, and for its students men especially selected for service with the army. The location is historic. In the Civil War the battles of Chickamauga, Lookout Mountain, Missionary Ridge, and Chattanooga form an interesting chapter. In the Spanish War, Chickamauga Park became notorious, as more men died here from disease than were killed by the enemy. Typhoid and dysentery had full sway—to the disgrace of the Medical Corps of the Army. The doctors, however, were not entirely to blame as they had no power to enforce measures for sanitation, and other officers, laymen, had no sympathy for such "foolishness," as it probably seemed to them. So it is an interesting fact that, twenty years after the display of such inefficiency, the Medical Department of the Army selected this spot as the center of their activities, and can point to records of the entire army, week after week, with absolutely no typhoid or dysentery—typhoid reduced by vaccination; dysentery by sanitation. The Owen Bill, now before Congress, increasing the rank of the Medical Department in order that they may have power to enforce sanitation, should have the active support of every medical society.

In order that the full scope of x-ray work in the army may be understood, it is necessary that one understand the various medical components of a fighting force. First, there are regimental aid stations located as near as possible to the front, where the wounded are given temporary aid, such as simple dressings, morphine or hot drinks. Then, further back, there are dressing stations, where new dressings are applied, so that the patient can, if necessary, be transported to the next unit, the field hospital, which may be approximately five miles from the front. It is here that the first x-ray work is done. Further back, possibly fifteen or eighteen miles, are situated the evacuation hospitals. These are mobile units, but have much more extensive equipment than the field hospital. Then come the base hospitals which are situated in permanent positions—many in this country. The litter-bearers, ambulance companies, hospital trains and ships, furnish transportation between these various units.

In the field hospital, the portable gas engine apparatus is used for the fluoroscopy of the entire body of the wounded, in search of foreign bodies. Little plate work is done, but the accurate localization of shell fragments, bullets,

etc., is accomplished by extremely ingenious methods perfected since the war began. During the period of hostilities this fluoroscopic work will comprise the major part of the duties of the x-ray personnel.

In the evacuation hospital, the smaller transformer outfit is used for what plate work is done—mostly pictures of fractures. And, of course, the bedside portable, with its stereoscopic fluoroscope, is made use of in the wards.

In the base hospital the most elaborate x-ray equipment is found. Here, all the apparatus common to a well-equipped x-ray laboratory is used. Plates are used almost entirely, and it is here that the x-ray will be of the utmost importance in the rehabilitation work the Government has planned to undertake after the war.

With the new types of apparatus made available by the foresight of the Council of National Defense, the Medical Department of the American Army is in a position to treat the wounded much more efficiently than has hitherto been possible. With the high-powered portable apparatus the committee has evolved, foreign bodies can be removed soon after the injury is received, thus shortening the time so important in the eternal fight against sepsis.

One of the epoch-making plans our Government has is the treatment of the wounded after the war is over. It has been the practice to turn loose on the community a large number of semi-crippled men with a small pension, and the result has not been altogether beneficial either to the individual or to the community. It is the purpose of our Government to discharge from the army no wounded man until his injury is cured completely, or, if that is not possible, until he has been trained in some line of work that he can do efficiently in spite of his injury. This means the establishment of a large number of so-called reconstruction hospitals. These will be base hospitals and here the surgeon and roentgenologist will work together to correct deformity and to return to civil life men able to take care of themselves. One of the largest of these hospitals will be located here in Chickamauga Park and will furnish clinical material for the instruction of men in training.

One of the most interesting phases of x-ray work in the recruit camps is the detection of malingerers. As long as there are humans there will be slackers, and we feel humiliated when one of them gets away with his tale of woe. One of the drafted men was given a discharge be-

cause of kidney stone. Before he left he did too much talking, with the result that an epidemic of kidney stone symptoms broke out in his company. Of course, justice to the men demanded complete investigation of these symptoms, and when a few had been x-rayed and found wanting, the epidemic disappeared as mysteriously as it came. On the other hand, there are many cases in which an unsuspected lesion, which would incapacitate a man for military service, is discovered, and the Government is saved the unnecessary expense of training a useless soldier. X-ray furnishes one of the safest and surest methods for the detection of malingerers.

Roentgenology, as a science, has reaped unusual advantages from the stimulus furnished by the necessities of this great war. Not only has the apparatus been standardized and made infinitely more efficient, but the clinical material available has added to our knowledge of pathological lesions.

More and more is the surgeon turning to the roentgenologist, not only for aid in diagnosis, but also for information concerning the progress of pathology under treatment. These two professions are working in harmony, and progress made by either one is dependent, to a degree, on the progress made by the other. It is from the surgeon's work that the x-ray man has learned to interpret his own work. It is by understanding the possibilities and limitation of each that this harmony, and also efficiency, has been brought about.

The diagnosis of tuberculosis by x-ray plates has been worked out to a remarkable degree from clinical material made available by the army, and, after the war, this knowledge will aid in the campaign against the "great white plague." Obscure bone and joint lesions will be much easier to diagnose, for the war has given us a vast amount of clinical material of this nature, and, instead of telling the surgeon that pathology is present, the roentgenologist can give a far more detailed statement of the true condition. The stereoscopic fluoroscope will enable us to visualize the angles and shapes of the intestines, and we shall be in a position to make lesions much more plain to the surgeon before he operates, or decides not to interfere. Also the heart and lungs will be clearly shown in their true relation by this device which is one of the direct results of the stimulation of the war.

So, as in almost every calamity, the evils which are only too apparent at the time are, to a remarkable extent, offset by benefits which become apparent later. Medical science, as a whole, will receive a lasting impetus from the situation brought about by the war, and roentgenology, especially, will have made great advances.

THE PHYSICIAN AND PSYCHOLOGY.*

BY J. DANFORTH TAYLOR, M.D., EAST BOSTON, MASS.,
Secretary, East Boston Medical Society.

At the completion of his course in the medical school and, possibly, after a year or so of training in the hospital as an interne, our embryo physician is let loose upon a credulous public as a full-fledged medico. With the greatest confidence in his own skill and ability, he hangs up his "shingle" and prepares for the rush of patients which he expects. No doubt he has seen and knows of older practitioners, with far less training and knowledge than he has, who make a big success of medicine, and he reasons as follows: "If those old graybeards can make good and know as little as they do, it will be more than easy for me." But year after year passes by and at last he is compelled to acknowledge that he has been a complete failure and often turns to some other business to support himself.

The "old graybeards" were possessed of something by which they were able to increase their business and to out-class all competitors.

Why is this often so? What are some of the necessary qualifications for success in the practice of medicine?

A competent knowledge of the various branches of medicine and surgery is, of course, the first requisite. Common sense in the application of that knowledge, a neat personal appearance, correct habits, a courteous manner, and the ability to "size up" the other fellow, are indispensable qualifications—the last of these being one of the most important.

A knowledge of the essential factors of psychology is as necessary to a man's success as knowledge of his business. All successful leaders in the social and business world are practicing psychology whether they realize it or not. Whatever they do is imitated and reflected on those who imitate by the power of suggestion.

* Extract from lecture delivered to the East Boston Psychological Society, April 24, 1918.

Medical practitioners in every city and town are pointing to their successful men and asking, "How do they do it?"

It would, indeed, be ridiculous if one expected to tell the whole story of psychology in this brief paper. But the worth of any article or spoken word is not so much in its intrinsic value, as its power, through suggestion, to stimulate the brain cells to act and strive for a deeper knowledge of the subject.

Older books defined psychology as the science of the soul, of the mind, or of consciousness, but they all fall short because of the difficulty in correctly defining those terms. Best of all is the definition of McDougall, of Oxford, when he calls psychology "the study of behavior." There it is, in a nutshell,—"the study of behavior,"—and under that classification we can study and observe all kinds of behavior in man or beast, bird or insect, be it normal, supernormal or subnormal.

It is the duty of science to collect all facts, classify and compare them, experiment with them, and then draw conclusions which shall stand as hypotheses, until they have been so universally verified that they become laws.

All human society works on the growing mind by a number of processes which we can classify briefly under three great heads,—suggestion, sympathy, and imitation.

Suggestion is where one communicates or induces a belief in people, independently of all logical reasoning, to a conclusion. Politicians cater to popular beliefs and sound popular slogans irrespective of their truth. Hypnotic subjects perform ridiculous antics through suggestion.

Sympathy makes us experience the same emotions and impulses as our neighbors when confronted by the same conditions. Note the common expression of sorrow over the loss of a relative by death, or of the loss of money or of sickness. Note also the universal indignation aroused when warring nations kill and maim innocent women and children.

Imitation prompts us to direct our bodily and mental movements according to a pattern set us by others. Observe how we follow certain lines of clothing, talk, customs, etc., of those with whom we come in contact.

You may say, "yes, this is all fine, but where does a knowledge of all this help a physician?" Let us look at this illustration: A patient visits your office. You receive him in

a dignified and courteous manner. You try to convey to him the idea that you are interested in his case and will do all you can to help him. You take his family history, drop a brief word of sympathy if he has had recent deaths or congratulate him on the virility of his people if they are all alive.

As all religious societies recognize the value of music to place the minds of the congregation in a receptive mood, so the physician must recognize the hypnotic value and effect of the human voice, properly modulated, in calming his patients' nerves and getting their confidence.

Having passed through the usual careful physical examination which should always be complete as possible, considering the nature of the case, the patient is then assured that "there is hope." (That one phrase made millions for Munyon.) If the case is one in which there is no hope, it is well to inform the relatives of the patient of the facts. Whether we are justified in telling a patient is one that depends on the circumstances.

The patient who visits a physician and is told that, with care, and the following out of directions, there is every prospect of his being helped and eventually cured, will leave that office feeling better in mind and body because the suggestions have had a favorable reflective action.

If the physician dispenses his own drugs, the patient *sees* the medicine, *hears* the assuring words of the physician, is impressed with the time at which it should be taken, and *feels* the package when placed in his hands.

The physician has given his message to a *receptive mind*, and his success is assured in 80% of his cases. Why? Because the most *primitive sensations* of his patient have been appealed to and stimulated in a most powerful manner. His *visual sensations* have recorded the courteous manner of his reception and he has seen his medicine prepared. His *auditory sensations* have been pleased with a well-modulated voice which has assured him relief from his physical conditions, and his *tactile sensations* have felt the package containing the remedy which is to help him.

His physician has *suggested* that he will be well; he feels that the doctor is *in sympathy with him*, and unconsciously he *tries to imitate* a man of stronger mentality and fall in line with his suggestions.

By association, any previous success that the physician may have had with the patient, or a remembrance of some friend who has been successfully treated, at once tends doubly to impress and fix on the mind of the patient the thought that he will be well. Associations of this kind may be stimulated by the physician *who uses tactful suggestions* which leave in the mind of the patient only favorable sensations.

A large proportion of patients have mental disturbances of brief duration, as well as physical ones. Ability to treat those mental or physical conditions is greatly enhanced by a knowledge of psychology. The use of psychology at the present time by the army and by large industrial concerns in picking men of efficiency should impress us all with its importance and value.

Let me repeat: as much knowledge of medicine and its allied branches as one can absorb is indispensable, but, without a working knowledge of the elements of psychology, one's years of preparation are liable to go to waste.

One thing more: the study of psychology is a review of the behavior of all peoples, at all times and under all conditions. It is a college education in itself. Why not look into it?

Original Articles.

RENAL AND URETERAL STONE.*

BY BENJAMIN TENNEY, M.D., F.A.C.S., BOSTON.

SOME years ago a five-year period in the records of the Massachusetts General and of the Boston City Hospital showed that a trifle over three per cent. of the surgical admissions could be classed as urinary cases. Of these urinary cases a little over one-third, or one per cent. of the total surgical admissions, were treated for stone in the urinary tract, and the proportion may have increased with the greater perfection in urinary diagnosis which has been acquired since 1915. Certainly a lesion which may be expected at least once in every hundred surgical cases is worth keeping constantly in mind. Of 1140 cases, quickly assembled from the literature and not duplicated, 668 were in males and 472 were in females.

Many studies of the composition of urinary stones lead to the same conclusion, as stated by Morris, that they may be classed as primary and secondary. "Primary calculi are composed

* Read before the East Boston Medical Society, October, 1917.

of certain salts or other ingredients precipitated from the urine in the kidney independently of any preceding change in that organ and of any septic condition in the urinary passages. Microorganisms thus take no part in this formation. Secondary calculi occur in kidneys (and bladders) which have been the seat of previous disease (or injury), whereby lime salts are precipitated from the urine as a result of chemical changes caused by the presence of microorganisms."

Most calculi are built up in concentric layers around a nucleus, and these layers may consist of the different urinary salts in almost any order. An examination of the collection of stones in the Hunterian Museum led the chemist to consider the calculus with a urate nucleus as formed in infancy, that with a uric acid nucleus as formed in young adult life, and that with an oxalate of lime nucleus as formed in middle life.

The origin of urinary stone is not yet fully determined. The older theory is that of "diathesis," whatever that may be, whereby one person out of many, living the same life, eating and drinking alike, precipitated his urinary salts in the form of a palpable stone. Another theory requires a bacterial origin for all stones, in spite of the fact that most stones are unilateral, while bacterial excretion is bilateral. A more recent suggestion is that of partial obstruction of outflow, producing somewhere a slowing of the urinary current. The "diathesis" may finally be found to be some combination of the last two factors.

It is generally agreed that almost all urinary stones originate in the kidney, and they are found below the kidney, and often increase in size after migration. We find crystalline deposits in the kidney substance both at autopsy and on the operating-table. I distinctly remember one patient whose x-ray examination showed two shadows, one produced by a calculus free in the kidney pelvis, and the other by a little pocket of gritty crystals near the lower end of the kidney substance. An interesting article by Bolognesi, on "Lime Infarcts in the Kidney," describes the appearance of these deposits after the administration of various chemicals by mouth and following the injection of certain liquid antiseptics directly into the kidney. In all the instances the deposit was in or near the tubules, and not in the glomeruli. How often these and other

crystalline deposits occur in our kidneys we have no means of knowing, but the proportion of men and women who at intervals feel a sudden sharp stab of pain, sometimes referred to the rectum and sometimes to the bladder or genitals, is really quite large. The sensation described differs only in duration and degree from that produced by a visible concretion.

Probably most of us have crystalline infarcts in our kidneys at some time in our lives, and most of us work them out while they are still too small to produce more than trivial symptoms. The individual who retains them in the kidney substance and increases their size, ultimately discharges them into his kidney pelvis where they probably produce the first subjective disturbance. The crystalline deposits are found in the region of the uriniferous tubules rather more than in the glomeruli, and this may have some bearing on their migration into the pelvis. Further than this we have occasional pelvic diverticula whose shape is such that a visible fragment might easily be retained and grow therein until some accident shifts it to the upper opening of the ureter.

Of 654 cases of renal and ureteral stones, reported by Braasch from the Mayo Clinic, 56% were removed from the kidney and the rest were passed, or removed from the ureter. At the present time we can say that a few more than half of these stones are recognized while yet in the kidney, and that this is probably due to some anatomical peculiarity which retains them there until they are too large to escape.

After they enter the ureter they may be stopped at either of the three narrowings, the first about two inches below the kidney, the second just above or below the pelvic brim, and the third and narrowest in the vesical end of the ureter. About two-thirds of the operated cases have had stones removed from the lower end of the ureter. The history of a stone in the bladder is not unlike that of a stone in the kidney pelvis; probably most which can get through the ureter pass out through the urethra, giving minor discomfort. Some pass with great pain, some are caught at one of the narrow spots, and others are retained within the bladder in a diverticulum, or because the shape of the internal meatus prevents the stone from engaging in it. That this theory rests on solid ground is shown by the fact that one patient out of every eight operated for prostatic

obstruction, in a series of 816 cases, had vesical stone.

To sum up: we do not understand the mechanism by which a crystal too large for a urinary tubule reaches the kidney pelvis,—perhaps a constant urinary pressure behind it, slight but persistent. Its retention in the pelvis may well be the result of some peculiarity in the shape of a calyx of the kidney.

Once in the ureter, we have the peristaltic action of the ureter assisted by the pressure of the urine, if the stone has entirely blocked the passage, to carry it along. Once in the bladder its further progress is determined by the presence or absence of anatomical obstruction.

Urinary stones produce quite different symptoms when obstructing the urinary outflow from those described when the stone is quiet and the urine can flow past. Urinary obstruction is far more common than any one cause for it, and the subjective symptoms of such obstructions are practically the same whatever the cause. On the other hand a "sleeping" stone may produce so few and such indefinite symptoms that its discovery by x-ray or in the course of some abdominal operative work may be quite unexpected. For these reasons it is impossible to give any set of symptoms which will allow us to make a diagnosis from the case history and ordinary observation.

Usually during an attack of renal colic the quantity of urine is diminished, while the frequency of urination is increased, and this is a valuable indication in cases with acute and severe symptoms. Complete anuria is more commonly associated with urinary stone than with any other cause. The urine passed by a man or catheterized from a woman will often give valuable evidence for or against urinary stone if the sediment be promptly examined under the microscope. Obvious blood in the urine helps in the diagnosis, but the presence or absence of albumen counts for little.

The group of symptoms characteristic of urinary stone includes hematuria, subcostal or vesical pain, and unusual frequency in urinating during activity. This combination never exists without some serious lesion in the urinary tract, though the lesion is not always a stone. The converse is also true—that a stone may be lying in the kidney, the ureter, or the bladder without any symptom of this group showing for a long period, and our history-taking may fail to reveal the presence of

any of these symptoms in the past. With some patients the diagnosis makes itself, and with others it is made only after disappointments at the failure of varied surgical adventures to give relief.

The x-ray has given the most reliable assistance in diagnosis of all the methods used, but the 10 or 15% of error in the hands of most competent operators forbids our complete trust in its showing. The cystoscope and ureteral catheter are helpful in making the diagnosis and sometimes give a positive answer, but more often they contribute only a piece of evidence to be weighed with the rest. Fortunately, with these aids and a careful history, a definite and accurate diagnosis can be made in the majority of cases.

If it is pain that brings the patient and physician together, the patient's hand will locate the pain more definitely than his words. If he locates it about the twelfth rib, think of obstruction to the urinary current on that side. This obstruction may be stone, or clot of blood or pus, or kink or stricture in the ureter. The pain may be anything from a dull aching in the upright position only, to a prostrating agony with vomiting, cold perspiration, and rigid abdominal muscles. It may simulate an appendix or gall-bladder colic, an acute intestinal obstruction or perforation, or the rupture of an extra-uterine pregnancy.

Ureteral colic reaches its maximum of pain rather suddenly, and is peristaltic in character, corresponding to the ureteral contractions which are more frequent than those of the intestine, but the ache of a distended kidney is more likely to be a steady grind, and to be relieved by horizontal posture.

If hematuria is the symptom which occasions the professional visit, we can confine our study to the urinary tract and inquire into the details of its appearance before, with, or after urination, its relation to activity and posture, and its association with pain and functional disturbance. In these cases the cystoscope is indispensable as well as the best means of destroying bleeding papillomata.

If the female patient comes for relief from frequent urination, urgent urination, leakage, or pelvic discomfort, the physician should always keep in mind the possibility that a ureter or vesical stone may be the cause, even if there be some genital injury or abnormality. Here again the cystoscope and x-ray, separately or

combined for pyelography, will give invaluable assistance in determining the cause of the symptoms.

Fortunately, urinary stone is not rapidly fatal. Death from calculus anuria seldom occurs before the fifth day, and the other fatalities from urinary stone are much slower. Ureteral and renal colics quickly reach their maximum of pain and general disturbance while the other acute processes with which they may be confused do not reach their maximum of general disturbance so rapidly.

The mistakes of diagnosis in the atypical cases are due to various things. If a man takes his responsibility to a specialty more seriously than he does his general pathology he will include too many outside cases in his list honestly, because his questions are unconsciously framed to elicit certain answers. Another source of error is the persistence in our minds of names that mean nothing definite, such as lumbago, neuralgia, inflammation of this and that unseen organ, and the like. Another is the eagerness to give relief by mechanical means with which the practitioner is familiar, and which have brought him honor in cases which justified his quick diagnosis.

It is a melancholy fact that most of us will die before we attain to perfection in diagnosis or anything else, but careful history-taking and the equally careful use of the diagnostic methods available in a large town will be followed by fewer mistaken diagnoses in the urinary tract than in almost any other human department.

TREATMENT.

There is but one,—removal either by direct operation or through the natural passages. Attempts at solution or disintegration of a real calculus by drugs or waters are followed by the same degree of success that obtains without their use. Sixty-four out of 654 cases of renal and ureteral calculi reported by Braasch were eliminated without a cutting operation. Many patients are so little incommoded by their stones that they prefer to take the chance of elimination rather than have prompt surgical relief, and for them we can try distention of the bladder to the limit of tolerance, rectal irrigation with hot water, or the various fluids suggested for use through the ureteral catheter. Operating cystoscopes fitted with scissors for slitting the ureter orifice, and forceps for



FIG. 1. URETERAL STONE. MAY, 1913. E. W. S.
(Kindness of Massachusetts Homeopathic Hospital, X-ray Dept.)

grasping the stone, have been used with success by some urologists.

For the control of pain during a colic, opium in the form of Dover's powder or morphine hypodermically are best. Inhalation anesthesia is preferred by some because it can be discontinued at once when the pain stops. Prompt relief can be obtained by open operation on any part of the urinary tract, with very low mortality. Posterior pyelotomy is preferred for renal stone when the kidney can be well mobilized. Nephrotomy is often necessary because of adhesions or a short pedicle, and nephrectomy can be done if the kidney be damaged beyond comfortable repair and its partner be known to be competent. Suture is necessary after nephrotomy or pyelotomy.

Stones in the ureter are best removed by cutting directly down on them. Suture is desirable and usually successful, but a fistula from a ureter usually closes. Removal of these stones is in one way like the removal of gallstones,—the anatomical conditions which accompanied their formation still exist and may favor re-formation or themselves produce symptoms. For this reason the suggestion of Fowler that after extraction of a renal stone the kidney should be fixed parallel to the twelfth



FIG. 2. URETERAL STONE. MARCH, 1916. E. W. S.
Taken by Dr. A. W. George.

rib is worth considering. Such a position might make the difference between the retention and growth of a crystal in a calyx and its prompt discharge through the ureter. After removal of ureteral stones occasional dilatation of the ureter is advisable and sometimes very necessary.

Without operative treatment the stone may be expelled, a 10% chance, according to the figures quoted, and certainly a painful experience. If the stone is allowed to stay in the kidney it will cause some degree of discomfort and disability and some damage to the kidney structure if too large to engage in the ureter. If the stone remains in the ureter, the discomfort and disability may be greater, with the probability of producing a hydronephrosis, and the possibility of a periureteral abscess from perforation of the ureter, or fatal anuria. Another possibility is shown in the x-ray plates accompanying this paper. The first plate was taken in 1913 and the second in 1916. The stone lay in a dilated ureter, adherent to the walls, and was easily crushed during extraction.

Some of my cases are briefly reported which show some special feature of interest.

CASE 1. Referred by Dr. John L. Ames.—Three years previous to my examination she had spent three days in bed with severe pain

in the lower abdomen, vomiting, and frequent urination. At the time of her examination her urination was $\frac{4-6}{0}$. Catheter urine was perfectly clear and albumen-free. She had a large uterus with multiple fibroids. At the time of hysterectomy a calculus was felt and removed from the left ureter, but at no time could any further history, suggesting ureteral calculus, be obtained.

CASE 2. Referred by Dr. F. A. Bardwell.—Nine years before, his appendix was removed. Four years later he was operated for acute intestinal obstruction and had a fecal fistula lasting two years. One week before his visit he had severe pain in right back, lasting six hours. This has recurred and prevented sleep. He had never had pain of this sort before, and no nausea with the pain, no radiation of pain, and no pain on left side. His right kidney was tender and also the line of right ureter. Urine showed pus and blood. Cystoscopy found hypertrophy of the ureteral bands. Both catheters passed easily and delivered cloudy urine from the painless side. An x-ray plate later explained this by showing a "sleeping" stone in the left kidney and a calculus in the right ureter. Both were easily removed at the same operation.

CASE 3. Referred by Dr. George Bowles.—Frequent and imperative urination, with leakage for years. Pain and tenderness on right side, contracted bladder and difficult cystoscopy. X-ray showed shadow in the region of left kidney. This was operated first under the idea of "crossed pain," which was then being discussed. A calcified lymph node was removed from the region of a normal-appearing kidney, and later a tubercular right kidney was removed, relieving the patient of her symptoms.

CASE 4. Referred by Dr. A. D. MacLennan.—Frequent urination for five years; two attacks of colicky pain on the left side, with increased frequency of urination, and one on the right side. Hematuria once. No tenderness over either kidney; urine contained pus and blood; cystoscopy showed a normal bladder, with tender left ureter and blood in both catheter specimens. X-ray showed no shadow in either kidney. I did not see him again, but learned that his left kidney was removed at the Boston

City Hospital on account of calculus pyonephrosis about a year later.

CASE 5. Referred by Dr. Harry W. Goodall.—Hematuria for three weeks, with slight pain in lower left side for a few days. Blood always mixed with urine. No pain at any part of urination. No night urines. No pain on either side. Cystoscopy negative and no gross blood in either catheter urine; some microscopic in both, more in right. Three months later had attack of severe pain on right side, with tenderness over kidney and along right ureter. X-ray showed stone in right side, probably in upper ureter. This was removed without difficulty.

CASE 6. Referred by Dr. Walter H. Young.—Pain in left side in periods lasting from three to nine hours, vomiting, urination hourly by day, two or three times at night. Urine contained pus and blood. Cystoscopy negative, purulent urine from left ureter. X-ray positive. At operation a double ureter was found with the stone easily removed from the second.

CASE 7. Previously published. Attacks of colic for two years, pain extending to bladder. Attacks came on gradually, with diminution of urine, followed by an hour of increasing discomfort up to the colic. Much urine after pain stopped. Patient was very thin, and a very tender mass, freely movable, could be felt above the pelvic brim. A stone was easily removed from the ureter.

CASE 8. Referred by Dr. Samuel Breck.—Case of calculus in both ureters, with pain sometimes on the left side and sometimes on the right, with the usual frequency, and purulent urine. X-ray showed shadows on left; and operation found and removed stone from upper end of ureter. Probe and catheter failed to find other concretions on this side. Convalescence was disturbed by severe pain in the right side, and vaginal examination found a tender nodule at lower end of right ureter. Oil was injected into the right ureter without immediate relief. Patient was transferred to a contagious hospital with scarlet fever and passed her right concretion there.

In two other cases, one seen with Dr. Henry F. Dearborn of Lawrence, and the other the wife of a physician, it has been possible to

reach a tender nodule by vagina and identify it with the ureter. The nodule in these cases has been several times the size of its enclosed calculus and mostly composed of fat firmly adherent to the outside of the ureter. That the presence of such a tender nodule does not settle the diagnosis is shown by a patient referred by Dr. Daniel F. Murphy of Beverly.

She had a tender left nodule in close relation to the left ureter, urinary symptoms, left-sided pain, a positive shadow on successive x-ray plates, and a previous laparotomy. The only negative finding was the absence of obstruction in passing a ureteral catheter. At operation the ureter appeared normal, but was opened and explored its full length with a flexible metal probe without finding stone or other obstruction. In front of the ureter was an enlarged lymph node which probably had enough lime in it to produce the x-ray shadow.

Another case with positive x-ray and negative findings was referred by Dr. C. O. Kepler. In this patient, a young woman, there was no palpable nodule and nothing was discovered at the operation to account for the shadow.

To sum up: urinary stone produces about 1% of surgical cases and should, therefore, always be considered among the causes of loin and pelvic pain. A small stone may be passed through the natural tubes—about a 10% chance—and its passage may be assisted in various mechanical ways, but we have no reliable evidence of the solution of any such concretion. Nature's method may cause great and repeated physical distress, with danger to the kidney, and should not be endured beyond a reasonable time.

The surgical removal of stones from the kidney or ureter is safely possible in most cases, and desirable for all who have demonstrated their inability to pass them after such assistance as can be given through the cystoscope.

MOBILIZATION OF THE KNEE JOINT IN SUSPENSION-TRACTION TREATMENT OF FRACTURE OF THE FEMORAL SHAFT.

By G. A. MOORE, M.D., BROCKTON, MASS.

SOON after the outbreak of the present war it became evident to most military surgeons that the generally accepted methods of treating fractures of the shaft of the femur in civil practice

were inapplicable to war wounds of this region. By the accepted methods are meant, briefly, Buck's extension, Thomas' hip splint with lateral splints, plaster cast, Lane's plates and Parham's bands.

To those who have done military surgery in the present war, the reasons for discarding these methods are obvious: First, a simple fracture in a wounded soldier is as rare as a case of typhoid; and second, practically all fractures are infected with the most virulent types of bacteria.

In most hospitals today these wounds are treated by some form of wet dressing or irrigation, which increases the profuse discharge resulting from sepsis. Under such conditions it is necessary to change the dressings frequently; at least once a day, sometimes oftener.

The large dressings for absorption of discharge from the wounds interfered with the application of the splints in Buck's extension, and the lateral splints with the Thomas hip splint, and made them uncomfortable. It was found to be impossible to maintain traction and alignment of fragments with these methods during the dressing of the wounds, the use of the bed pan, bathing, etc.

The plaster cast does not offer these difficulties when once properly applied. It is, however, limited to selected cases, where the injury is not extensive. Its application in these cases requires considerable skill, as the wounded area must be bridged to allow dressings, and a certain amount of extension must be maintained by the cast. It is used more by men with orthopedic training than by general surgeons.

Plates and Parham bands have been used to some extent, but have given discouraging results and are being discarded. The screw-holes for the application of plates offer new avenues for bacteria to enter the medullary cavity of the bones and increase bone involvement. Bands often become loose, owing to necrosis of ends of bones, and are of no value.

To obviate these difficulties, the method of treating fractures of the extremities by traction and suspension was adopted. This consists, briefly, in attaching a Balkan frame to the bed, with stringers between the head and foot pieces over the injured limb. The Balkan frame has been described so frequently in articles on war surgery that a repetition of it here seems unnecessary.

Traction on the limb is maintained by means

of Canton flannel strips attached to the limb with mucilage.* These are attached to a spreader to which a cord with weights is attached, passing over a pulley at the foot of the bed. In certain types of fractures involving the lower third of the femur a Steinman pin or Finocchetto band is used.

A Thomas-Hodgen splint, which is used in most hospitals, is then placed over the leg and the leg slung up in the splint by means of hammocks made from strips of cloth pinned to each side of the splint. The limb within the splint is then suspended by means of cords attached to the upper end, the middle and the foot of the splint. These cords are carried upward and passed through pulleys in the stringer of the Balkan frame. To the ends of these cords, after passing through the pulleys, are attached sand bags made of suitable size to balance the weight of the limb.

As a result of this maintenance of balance between the weight of the leg and the sand bags, the patient is enabled to raise or lower the leg at will and to move about on the bed as far as a hospital bed permits, without causing any motion of the fragments. It is surprising in dressing the extensive wounds that accompany these fractures of the femur, in bathing the patients, and in the use of the bed pan, to observe that practically all motion of the fragments is absent.

In applying the various splints in base hospital work to fractures of the extremities, one is first impressed with the ingenuity of these devices for allowing passive and active motions of the joints of the injured limb during treatment. These methods will be described in a later paper. While these methods are not in accordance with the old teaching of immobilizing the joint above and below a fracture, results have proven that in war surgery they are superior to the old custom. Better function of the injured limb is obtained at the time the fracture is united, and less time and expense are required for massage, electrical treatment, baking and passive and active exercise, to obtain complete function after the splints are removed.

In the treatment of fractures of the shaft of the femur by this method, considerable motion of the hip joint is obtained by raising and

* Prescription for mucilage:
Canada Balsam 1 ounce
Venice Turpentine $\frac{1}{4}$ ounce
Ether $\frac{1}{2}$ ounce

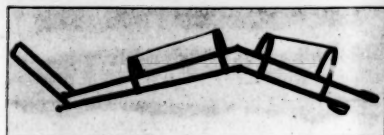


FIG. 1.—Modified Thomas-Hodgen splint for knee flexion.

lowering the limb; also by the patient's moving about in bed. So that ankylosis of the hip is rarely seen following this injury.

As regards the knee joint: so far as I have been able to learn, up to January, 1917, no method had been devised in the treatment of fractures of the femoral shaft for mobilizing the knee joint. The nearest approach to it were the so-called railway splint, and the bent

fication in the method of traction could be made, enabling the patient to raise the traction pulley coincidentally with flexing his knee, thus maintaining traction in the line of the shaft of the femur at all times.

A modified Thomas-Hodgen splint was then made (see Fig. 1), hinged at the knee, and with eyes for suspension at the site of the joint; it was also jointed at the heel, and the foot piece held at right angles by rubber bands attached to the side pieces to allow motion of the foot and to prevent toe-drop. Then, as the heel of the splint would move upward towards the head of the bed when flexion of splint was produced, small wheels were attached to the heel part of the splint and a board placed in the bed for the heel to roll back and forth on.

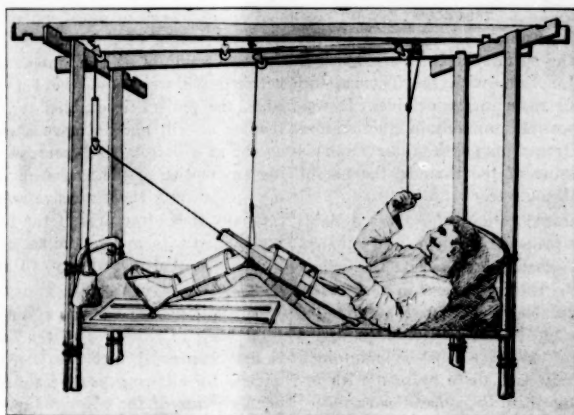


FIG. 2.—Drawings for splint, showing overhead plan of pulleys.

Thomas-Hodgen splint; but both of these methods simply held the knee fixed in slight flexion and did not allow motion of the joint during treatment. As a result of the prolonged fixation of the joint, necessitated by the sepsis which accompanied many of these fractures, ankylosis frequently resulted, often requiring nearly as long to overcome and restore function in the joint as the treatment of the sepsis had required.

In treating this type of case in the American Ambulance Hospital, the idea presented itself to the writer that a Thomas-Hodgen splint could be jointed at the knee, traction maintained by extension straps attached above the knee, and the limb could be suspended in the splint in the usual way. Further, that a modi-

The next step was the application of this device in such a way that traction would be maintained in the plane of the shaft of the femur in whatever degree of flexion the knee was placed. This was done in the following

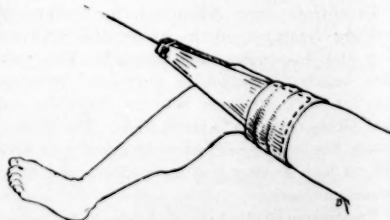


FIG. 3.—Collar for extension of lower third of fragment.

way: after suspending the limb in the splint in the usual way, the traction cord was passed through another pulley, suspended from the overhead stringer of the Balkan frame (see Fig. 2). The cord which supported the movable pulley was passed through another pulley on the overhead stringer. It was then carried towards the head of the bed and attached to the cord which suspended the limb at the knee after this cord has passed through a pulley. After joining these two cords together, the single cord was brought down over the patient's chest and attached to a hand piece within easy reach of the patient.

It will readily be appreciated that when the patient pulled on the hand piece over his chest, he would raise or flex his knee and at the same time raise the movable pulley which supported

means of a cord attached to the splint, passing through a pulley in the stringer, and then attached to a sand bag to balance the weight of the leg.

The application of long strips of Canton flannel to the sides of the thigh limited the use of the splint to fractures of the middle and upper third of the shaft of the femur. To extend the field of usefulness of the splint to the lower third of the femur, wide strips of Canton flannel, about 5 or 6 inches long, were applied to the lower end of the femoral shaft and attached to the skin with mucilage; these were further secured by turns of bandage soaked with mucilage as they were applied. This formed a collar about the lower portion of the femur, permitting extension of fractures in the lower third of the femur and at the same time



FIG. 4.—Splint applied in case of fracture in region of trochanters. Abduction frame in use with splint. Unfortunately, the entire Balkan frame is not shown in the photograph.

the traction weight. If these cords were adjusted properly, traction could be made continuously in the plane of the shaft of the femur. It was necessary to place check knots in the cords to prevent complete extension when the patient was not flexing his knee. Owing to the overhead loops on the splint, traction could not be maintained when the leg was in full extension. To allow the patient fully to extend his leg, a suspension cord was attached to the foot piece of the splint, carried up to the pulleys in the stringer, then forward and, after passing through a second pulley over the man's chest, it was brought down and attached to a second handle. By pulling on this handle the leg could be placed in full extension. The last step in the application of the splint was to suspend the upper end in the usual way, by

allowing flexion of the knee (see Fig. 3). This idea was suggested by Dr. MacAuley of the American Ambulance and resulted in less edema of the leg than the Hennequin method.

RESULTS.

On leaving the American Ambulance Hospital the last of January, 1917, we had not used this method on enough cases to give statistics on its comparative value. The patients on whom we had applied it showed: First, a rapid improvement in the movement of the knee joint; second, a gradual improvement in the atrophied condition of the thigh muscles; third, traction and alignment of fragments were maintained as well as by the old method of traction, by means of long strips on the leg below the knee; fourth, as a result of the flexed position of the

leg, less weight was required to pull the fragments down and prevent over-riding. No pull was made on contracted hamstring muscles.

In the case illustrated in Fig. 4: A man wounded two months before entrance to the American Ambulance Hospital and treated in a hospital near the front. On entrance he presented a large gangrenous wound in the right trochanteric and gluteal region, with a sinus extending up into the right hip joint. X-rays showed a loss of substance of part of the upper third of the femur, the trochanters and part of the neck of the femur. He had almost complete ankylosis of the knee. On applying the splint he would rouse the entire ward by his cries each time he attempted to flex his knee. Four days later he was able to flex his knee to nearly right angles without pain and without any apparent harm to the wound. This case was not a real test of the method, as there was a loss of substance of the bone and therefore no fragments to keep in alignment or prevent from over-riding. But in the cases of fracture of the shaft of the femur to which it was applied, alignment could be maintained and over-riding prevented as well as by the older methods.

CRITICISM.

Much more care and patience are required in the application of this splint than the Thomas-Hodgen splint; and, similar to the latter splint, there are certain fractures of the lower third of the femur in which there is marked backward displacement of the upper end of the lower fragments where it is inapplicable. In such fractures the methods described by Blake and Bulkley are best suited. Like all methods of traction which depend upon the pull upon the bone being transmitted through the fascia, this method requires more weight than is used with a Steinman pin (Blake and Bulkley).

If a method of direct traction upon the bone could be devised, by means of which no injury to the periosteum or bone would be done, all methods of external traction could be discarded.

CONCLUSIONS.

This method was devised for the treatment of compound fractures of the shaft of the femur to obviate ankylosis of the knee joint. In the cases to which it was applied in base hospital work, it fulfilled this requirement. It does,

however, require more care in application than the Thomas-Hodgen splint. On the other hand, when union is obtained and the wound healed, the patient is able to flex his knee, and there is less atrophy of the thigh muscles than following the older methods of treatment. From an economic point of view, as a result of this method, much of the massage, baking and electrical treatment necessary to obtain good function of the knee, following the older methods of treatment, is obviated. It is applicable to simple fractures as well as compound; and, like many other ideas that have been stimulated by the present war, has a field of usefulness in civil surgery.

Medical Progress.

REPORT ON DERMATOLOGY.

By JOHN T. BOWEN, M.D., BOSTON.

TREATMENT OF CUTANEOUS CANCER.

MACKEE¹ insists on the importance of an early diagnosis of cutaneous cancer, and urges the need of impressing this fact strongly both on the student and practitioner. Also the lay public should be told that cutaneous cancer may be permanently cured if properly attacked sufficiently early, and that a physician should be consulted for a persistent lesion of the skin or mucous membrane. This is as important relatively as the early recognition of syphilis.

While the two main varieties of epithelioma—the basal cell and the prickly cell—may appear on the unaffected skin, they are usually preceded by keratoses, of either the seborrhoeic or senile type. It is not always possible to determine the type of epithelioma that may follow from these varieties of keratoses, therefore they are all to be considered as potentially dangerous, and should be destroyed. If a simple superficial keratosis, curetting, followed by cauterization of the base, is sufficient. The roentgen ray or radium is, of course, effective in such cases, but not necessary. Also solid carbon dioxide and fulguration may be employed. It should be remembered that the roentgen ray is capable in itself of causing keratoses, which are very liable to become malignant. In these cases more drastic measures should be resorted to than in simple and senile keratoses. Inasmuch as in all types of pre-

cancerous keratoses there are, in addition, changes in the lower epidermal layers, it is well to destroy the epidermis to a greater depth and extent. Leukoplakia, as it frequently eventuates in cancer, should be radically treated. Small patches should be destroyed with caustic potash, chloride of zinc, or the actual cautery. Radium is often effective. The pigmented mole is a dangerous lesion, especially the flat, deeply colored variety. It should either be left alone or thoroughly destroyed, as inadequate treatment often hastens epitheliomatous change. The method should be either a wide excision, or by the actual cautery.

With regard to recognized methods of treating cutaneous cancer, MacKee considers three principal ones that have received wide recognition: (1) excision, (2) cauterization, and (3) roentgen ray or radium.

Excision is indicated in small lesions in locations such as the cheek, lip, trunk and penis, where the resulting scar is unimportant or barely noticeable. In other locations, such as the nose, eyelids, etc., the resulting deformity is apt to be objectionable. Cauterization is accomplished by chemical agents, actual heat, or electricity. The high-frequency spark is usually employed only as an aid to some other treatment, as the roentgen ray. The method is painful and this is not wholly obviated by local anesthetics. Cauterization is by some considered to be better than the knife or curette, because it does not open up the lymphatic and blood vessels, and they also claim for it a selective action on the pathological tissue, and that an inhibitory action is produced on the malignant cell by the copious outpouring of serum.

Cauterization by Sherwell's method of thorough curetting, followed by the prolonged application of acid nitrate of mercury, gives excellent results. It is especially useful in cases where excision is inapplicable on account of the size, depth, or location of the lesions, or where they have failed to respond to roentgen ray or radium. In extensive lesions a general anesthetic is advisable. Arsenious paste, as recommended by Robinson, is reliable if properly employed, but it seems to be a method that requires considerable experience. Chloride of zinc is more destructive and the resulting scar more disfiguring.

Roentgen Ray and Radium. Broadly speaking, the action of these two agents on cutaneous cancer is about the same, and they are suitable

for use in selected cases, the cosmetic results being superior to those by any other method. An objection is the atrophy and telangiectasis that sometimes follow these procedures. The absence of pain and the saving of time and inconvenience to the patients are advantages, on the other hand. It is in lesions situated in special locations, such as the inner canthus, the eyelids, and the alae of the nose,—places in which scarring is especially undesirable,—that these methods are indicated. It must not be forgotten that a serious dermatitis, that may never heal, sometimes follows the injudicious use of these agents. The best results seem to be attained by the so-called intensive treatment, although a few authorities have had good results with the fractional method. MacKee prefers the administration of full skin toleration doses at one sitting, at intervals of four weeks.

The basal cell and the prickly cell types of cancer are then discussed in relation to the three methods of treatment just described. In the basal cell type there is no fear of metastasis and the lesions are of slow growth, hence there is no need of great haste. Any one of the three methods may be properly employed, and statistics do not favor any particular method; excision, cauterization, and roentgen ray and radium treatment all giving about the same percentages of cure. It is, therefore, a question which is the best method in the individual case. MacKee thinks that roentgen ray or radium is the best method in every untreated case of basal cell epithelioma, unless the lesion is very extensive and deep seated. In these latter cases it is well to combine cauterization or fulguration with intensive roentgenization or radium therapy. If this procedure fails, or cannot be properly applied, excision or radical cauterization must be resorted to.

Squamous cell epithelioma is a type of much greater menace, as it is capable of rapid growth, and may give rise to metastases in its early stages. Hence early destruction, without regard to cosmetic result, is imperative. Usually an experienced clinician is able to differentiate between the basal and squamous cell type, but not always. Of late it has been questioned whether it is wise to cut out a bit of tissue for microscopical examination on account of the danger of diffusion by opening the lymphatic channels, as well as the use of the curette and radium insertions. The consensus

of opinion favors the removal by excision of every lesion of this type that it is possible to eradicate wholly. Many favor removal of the neighboring glands as well, as it is impossible to be certain whether metastasis has occurred. Radium and the roentgen ray may cure permanently very young malignant tumors, but they are very unreliable if the growth is indurated, deep, or well advanced, and should be limited to the inoperative cases. They may, however, be used properly in connection with excision. MacKee gives the following rules for treating malignant cutaneous epithelioma.

1. If the lesion is in the earliest stages of evolution, a local cure may be expected as a result of adequate treatment with arsenic paste, actual cautery, roentgen ray, or radium fulguration, and excision. It is advisable, even in these early cases, to apply the roentgen rays to the treated area and the neighboring lymphatics when the lesion has been destroyed by some agent other than radium or the roentgen ray. Speaking comparatively of the roentgen ray and radium, there are instances when the latter is of greater value, namely, in roentgen ray cancer, and the growths that occur in xeroderma pigmentosum. Radium is also preferable in epitheliomas developing on leukoplakia, not only on account of the location, but because the results are superior.

2. If the growth is advanced beyond the very early stages, it should be removed by excision and the roentgen ray applied as a prophylactic agent, as already outlined.

3. If, for various reasons, the lesion cannot be excised, it can be removed by the actual cautery or with arsenical paste, and the roentgen ray used as a prophylactic.

4. Finally, there are cases in which, on account of certain complications and difficulties, none of these methods can be utilized. In such instances we can resort to Sherwell's method.

There are no statistics on which to base the value of the roentgen ray as a prophylactic. It has sometimes failed in cases that seemed to be particularly favorable, but it is of real value as a post-operative procedure, and also in inoperable cases.

With regard to sarcoma, early excision, with a wide margin, is imperative. It may be wise, in addition, to have the roentgen rays applied to the site of the lesion and to the neighboring glands as a prophylactic. In inoperable cases, the roentgen ray and radium are very valuable.

LUPUS ERYTHEMATOSUS AND TUBERCULOUS INFECTION.²

Weiss and Singer of St. Louis studied carefully 12 cases of the discoid type of lupus erythematosus with regard to a tuberculous etiology. Up to recent years investigators have tended toward the view that lupus erythematosus was in some way related to tuberculosis. At first it was thought to be a true inoculated tuberculosis of the skin; later, especially by the French observers, it was regarded as produced by a toxin from the tubercle bacillus. Later still, much doubt has been cast upon this theory, although many still believe that it is of toxic origin. The tubercle toxin theory was based on the frequent finding of evidence of tuberculosis both clinically and post mortem. It had been claimed that in a large proportion of cases there was a family history of tuberculosis, a positive reaction to the tuberculin test, clinical evidence of tuberculosis, or evidence of tuberculosis discovered post mortem.

Of the 12 cases examined in this series, 10 showed evidence of tuberculosis; 4 of these were chronic tuberculosis, 1 active tuberculosis, and 5 healed tuberculosis of childhood. The statistics of Brocq and others led them to a belief that there was a direct connection between lupus erythematosus and tuberculosis. The writers' statistics correspond in many respects with these, and they might reach the same conclusions. But their deductions, based on the modern conception of tuberculosis, are quite different.

With regard to *family history*. Because quite a large number of cases of lupus erythematosus have a family history of tuberculosis, it is assumed that this is in favor of a connection between the two diseases. Taking an average of the percentage of various authors, it is found that above 43.5% of the cases of lupus erythematosus give a family history of tuberculosis. It is probable that with careful questioning of patients, fully as large a percentage could be found in many other conditions, such as acne, for example.

Tuberculin Test. The writers believe that the positive tuberculin test means tuberculous infection and not necessarily tuberculous disease, and that practically all individuals above the age of twenty and living in large cities react to the tuberculin test. Tuberculin has no effect on uninfected individuals, but practically

there are no uninfected individuals. Hence a positive tuberculin test in lupus erythematosus does not strengthen the theory that there is a relation between this disease and tuberculosis.

Clinical Evidence of Tuberculosis. Clinical evidence of tuberculosis can be discovered in an extremely large number of people by modern methods of diagnosis; the writers think that fully 90% of all individuals above the age of 20 and living in cities are subjects of tuberculous infection, or of tuberculous disease. Tuberculous infection in early life is the rule and not the exception, and, as Opie says, by far the great majority of us are vaccinated in childhood against tuberculosis. In the writers' series of cases, 83% showed evidence of tuberculosis, and they have reason to believe that it should be 100%. Only one case showed active tuberculosis, and they think it very improbable that in nine out of ten of their cases a circulating tubercle bacillus toxin was the cause of the skin condition.

Post-mortem Evidence of Tuberculosis. Of late years more and more evidence of the universality of tuberculous infection, as demonstrated post mortem, has been accumulating. Opie has found that of 50 cases dying of diseases other than tuberculosis, in every one there were lesions of tuberculous infection or of tuberculous disease. Hence the finding of tuberculosis post mortem is no good evidence of a relationship between lupus erythematosus and tuberculosis.

It has been shown that fully 90% of the adults who live in large industrial centers are the subjects of tuberculous infection or tuberculous disease, but that practically no cases of lupus erythematosus are seen among the inmates of large tuberculosis sanatoria; and furthermore, there is no similarity between the histopathology of lupus erythematosus and that of tuberculosis.

The conclusions reached by the writers are that no evidence has as yet been presented to show a relationship between lupus erythematosus and tuberculous infection or tuberculous disease, although it has been shown that tuberculosis, past or present, may be demonstrated in practically all cases of discoid lupus erythematosus. This fact should be interpreted only as further evidence of the universality of tuberculous infection, and not as proof of an etiological relationship between the two affections.

ALOPECIA FOLLOWING X-RAY EXPOSURES² IN THE WOUNDED.

Frenkel reports a small epidemic of "pseudo-pelade," which occurred during the month of May, 1917, among those suffering from ocular wounds in the hospital at Toulouse. In all cases the alopecia was localized in the occipital region and increased rapidly, in some cases exceeding an area the size of the palm of the hand. In all the plaque corresponded to the size of the ocular wound, except in one case where it was in the median line. The wounded were distributed throughout different wards, and had never used the same toilet articles. Eleven observations are then related in detail. It is manifest not only that the alopecia was situated on the same side as the ocular injury, but that in all cases there had been a severe traumatism, which had necessitated enucleation in 6 of them. One would be led at first to think of a nervous pseudo-pelade due to trophic disturbances of a reflex nature, whose point of origin had been the ocular region. But a more plausible explanation was suggested by the fact that all of the subjects had been x-rayed in order to determine the locality of the projectiles which they harbored. It was found that the first appearance of the alopecia occurred almost constantly about fifteen days after their exposure to the x-rays. It was also found that the area of alopecia occupied precisely the same situation as that to which the photographic plaque had been applied. Hence it seemed obvious that there was a direct relationship between the falling of the hair and the application of the radiography. In none of the cases was there any real radio-dermatitis, but simply a systematic epilation of the region which had been in contact with the procedure. It was impossible to discover any fault of technic in these cases, or any general cause. The question then remained: Why did these men, and not others, suffer from the action of the rays? It was found that some of them had been exposed twice on different days, with an interval of less than eight days between the two exposures. In such cases, an anaphylaxis might be invoked. It is also possible that there was a difference in the quality of the apparatus. The hair in the denuded areas began to grow again in from two to three weeks, but the growth was very slow, and it was not before three months that a normal state had been attained in two of the cases.

PRIMARY AND SECONDARY IMPETIGO IN SOLDIERS.

Major MacCormac⁴ states that out of a total of 1786 patients admitted with skin troubles into a general hospital in April, 1917, 1411 had either primary impetigo, or impetigo grafted on some other condition, and this latter form may be so severe as to mask the underlying affection. He then proceeds to describe four types or classes of impetigo:

1. True impetigo contagiosa. This rarely occurs among the troops in France, contrary to what would be expected from its prevalence in civil practice. It is known to be caused by the entrance of a streptococcus into some abrasion or cut in the skin, and hence is usually found on the face, hands and arms—regions favorable to inoculation. It is characterized by a primary vesicle which soon becomes changed into a superficial crust, described often as "stuck on." The treatment consists in first removing the crusts by borie fomentations or borie starch poultices, perhaps smeared beforehand with liquid paraffine; the lesion is then treated with 1% of ammoniated mercury in zinc ointment, or, if this is too irritating, Lassar's paste, after washing with 1-1000 perchloride lotion.

2. Ecthyma. This is a deep form of contagious impetigo, and is apt to be situated on the legs and thighs. When fully developed, the lesions consist of a crust covering a purulent ulcer, surrounded by a red border, and somewhat thickened edges. It is often caused by the scratching to relieve itching caused by lice, or follows the friction and rubbing of garments soiled with mud or dirty water, and the lesions may be spread rapidly by autoinoculation. In treating this form, frequent fomentations are indicated, preceded by washing with a 1-4000 perchloride solution. Before this a removal of the crusts, as far as possible, by soap and water is necessary. Afterward antiseptics may be used—perchloride, ammoniated mercury ointment, etc. Sluggish lesions may be painted with a 2% solution of nitrate of silver in sweet spirits of nitre.

3. Impetigo complicating seborrheic eczema. Seborrhea seems to be present to an unusual extent among the soldiers in France. An impetigo is frequently added as a complication to a pre-existing seborrhea or seborrheic eczema, and this condition is characterized, in distinction from impetigo contagiosa proper, by its presence in the beard, mustache and eyebrows, and by the firm attachment of the crusts, as

well as by seborrheic lesions being present in other places. This form may co-exist with ecthyma. In the treatment it should be remembered that the condition is an eczema rather than an impetigo. A liniment of zinc oxide, calamine, limewater and olive oil is recommended, followed perhaps by Lassar's paste with 2% salicylic acid, or ichthyol. Boils and conjunctivitis are frequent complications.

4. Impetigo complicating scabies. Almost all the cases of scabies seen in France are complicated with impetigo, as the soldier rarely reports until his skin has become infected with the pyogenic cocci. In these cases the impetiginous lesions are usually grouped over the lower buttocks, the elbows and knees. The situation on the buttocks is very suggestive of scabies. The treatment in these cases of infected scabies is apt to be long and tedious, hence prophylaxis is of great importance. The scabies must first be treated, by a bath, three days sulphur ointment, and a change of clothing. The ecthyma is then dealt with as has been described. There is often a troublesome degree of secondary dermatitis, the itching from this condition being often erroneously attributed to a survival of some of the parasites. In other cases he recommends the application of Lassar's paste with ichthyol during the day, with calamine lotion at night. The ointment should not be applied to any lesions that contain pus.

RHUS DERMATITIS.

Toyama's⁵ article embodies an abstract from the Japanese works on this affection, together with a comprehensive survey of the literature of other countries. Of the six varieties of the rhus family that in Japan grow wild, rhus toxicodendron and rhus vernicifera are the most injurious. He notes that the first descriptions of rhus dermatitis came from the Orient from 605 to 609 A.D. in China, and from 923 to 930 A.D. in Japan. The clinical features of rhus dermatitis are well known. The character of the poisonous element has not yet been firmly established. Some have asserted that it is volatile, others that it is non-volatile. Those who hold to the former theory assert that people are poisoned who simply pass under a lacquer tree or in front of a lacquer-ware shop. New lacquered ware has caused a dermatitis in a large number of people, while old lacquered articles are harmless. Maisch, together with other German and Japa-

nese authorities, holds this view. On the other hand, Pfaff, Tschirch and Jadassohn, and others, believe that the toxic agent is non-volatile. The writer's experiments in this direction tend to show that rhus has no volatile poison. Kittens and young rabbits were used, since they have the most susceptible skin of any of the domestic animals. They found that the smoke that is produced by the combustion of lacquer did not inflame a susceptible skin. They seek to explain the common observation that smoke from burning rhus plants is poisonous, by the supposition that a non-volatile substance may be carried by the particles of soot in smoke, and this is fortified by an observation that smoke filtered through glass-wool is not poisonous. An interesting circumstance was the finding of an antique jar, which had been buried in the ground about a thousand years ago, in a ruin in Japan. Inside this jar there was Japanese lacquer, quite dried up. Experiments with this lacquer showed that a petroleum-etheric solution was poisonous, although all of the volatile components had naturally been lost during the many years that it had been buried.

A substance named "urushiol" is claimed to be the principal ingredient of rhus. This may be obtained from the sap of the lacquer tree by dissolving in absolute alcohol and evaporating the alcohol from the filtrate of this solution, and this may be further purified. People who are susceptible to rhus poisoning are also susceptible to urushiol, and cats and rabbits which are susceptible to the lacquer are also sensitive to the urushiol. He could find no difference between the urushiol dermatitis and lacquer poisoning, or poisoning from any members of the rhus family, as regards either the symptoms or histological findings. He considered that the principal ingredient of the ivy is the same, both in its clinical character and its poisonous action, as that of the lacquer. He concludes that the cause of rhus dermatitis is urushiol, a principal ingredient of the lacquer, and that this principal ingredient is the toxic agent.

Assuming that urushiol, a non-volatile substance, is the toxic agent, the writer then seeks to explain the cases of infection at a distance. In the case where the infection is produced by walking under a lacquer tree, he assumes that a small quantity of the sap may be carried to the person by means of the wind, or by insects. Very minute particles of lacquer are sufficient

to produce dermatitis in a susceptible skin. The poison may also be conveyed by the pollen. The cases in which poisoning has appeared after passing the front of a lacquer-ware shop may be due to mechanical transportation of the poison. The reason that old lacquer-ware may be harmless depends on the decomposition and recombining of urushiol with time. Persons may be poisoned by contact with lacquer that has adhered to clothing and wools.

Histologically, he found marked changes connected with the sweat ducts in the papillary layer, as well as about the hair follicles. He assumes that minute particles of urushiol reach the skin and are easily oxidized, this process of oxidation causing a poisonous action. The sweat glands and hair follicles show early changes because they offer a ready means of entrance to the poison.

With regard to treatment, the writer warns against the successive application of various medicaments, especially in ointment form, on account of the danger of spreading the injurious substance before neutralization, on the sound skin. For the neutralization or destruction of the urushiol an alkali, nitric acid, and sugar of lead should be used. If it can be proved that there has been contact with rhus, he recommends, as have others, the preliminary application of an alkali. The surface should be rubbed with cotton wet in a solution of sodium carbonate or potassium carbonate in water, or a 1% solution of caustic potash in alcohol, glycerine and water. By the action of this alkali, the lacquer adhering to the skin appears as spots or lines of blackish color, if the quantity is sufficient. These spots and lines may be removed by the application of an alcoholic solution of 1% nitric acid. Then the skin may be washed with soap and water.

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TUBERCULOSIS NURSE.—At the soldier service meeting of the State Tuberculosis Association, Manchester, New Hampshire, it was voted to create an office of a state tuberculosis nurse. The duties will consist of initiating and supervising antituberculosis work in communities, and of following up the men rejected in the draft and from Army camps because of tuberculosis. Tuberculosis dispensaries will be established in cities with a population of ten thousand or more.

Society Report.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

MEETING OF WEDNESDAY, DECEMBER 6, 1917.

The President, DR. RICHARD H. HARTE, in the chair.

EPIDEMIC POLIOMYELITIS: ITS NATURE AND MODE OF INFECTION.

SIMON FLEXNER, M.D., New York: Epidemic poliomyelitis, or infantile paralysis as the disease is variously and, on the whole, erroneously called, is becoming increasingly familiar to us. The disease has become more prevalent also throughout the world. This wide distribution can be attributed to the endemic focus in Northern Europe ever becoming more and more active, which culminated in the severe epidemic outbreak in Sweden in 1905. The severe forms of the epidemic disease and the occasional and sporadic instances of infantile paralysis are essentially the same disease, due to a common etiologic agent. So long as the disease is conceived of as one attended by paralysis, a large number of cases will be excluded. Thanks, especially, to Wickham, we have learned that perhaps the majority of cases in epidemic times are not associated with paralysis. To define epidemic poliomyelitis—so called—I should term it an acute infectious and communicable disease, attended sometimes, but by no means always, by involvement of the central nervous organs, as a result of which incident paralysis often results. The parts of the central nervous organs most frequently involved are the meninges, with which may be and often is associated injury to the grey matter of the spinal cord and brain, leading to muscular paralysis. In its essential nature the disease is an infection. A minute anaerobic microorganism has been secured which fulfills Koch's law of causation. I feel, however, that it is better to wait until this experimental work has been confirmed in other countries in which epidemic poliomyelitis occurs before proclaiming the microorganism as the established cause of the disease. Of first importance is the discovery of the manner in which the microbic cause of poliomyelitis enters and leaves the body. The infectious agent enters and leaves the body by

the upper respiratory mucous membrane, and may at last leave the body with the intestinal discharges. Whether there are still other avenues of infection we do not know. Neither do we yet understand the tendency of the disease to reach its height in the late summer and early autumn months, though intensive study is showing that the disease extends throughout the winter, and in two instances mid-winter epidemics occurred in Sweden and Norway. Under the circumstances the disease is to be regarded as communicable from person to person. A simple, readily applied biological test to determine the presence of poliomyelitis is greatly to be desired. Lumbar puncture in 90% or more of instances gives a definite answer, yielding, as it does, a fluid, usually clear, but showing either morphological or chemical changes, or both these changes simultaneously. The mononuclear cells tend to be increased and globulin often is present. These changes, especially during periods of epidemic, should be regarded as presumptive evidences of poliomyelitis infection. As beginnings are being made in respect to specific form of treatment, the employment of lumbar puncture and study of the changes in the cerebrospinal fluid are affording the basis for the application of treatment at the more favorable periods, before possible paralysis has appeared, which may often determine whether the treatment will be effective or not.

SOME PRACTICAL CONSIDERATIONS IN THE ADMINISTRATIVE CONTROL OF EPIDEMIC POLIOMYELITIS.

DR. HAVEN EMERSON, Commissioner of Health, City of New York: There are obvious limitations to the application of scientific laboratory and clinical knowledge in the public control of communicable disease. Furthermore, when the means of transmission, immunization and of detection of carriers of a disease are lacking, the resources of the public health officer are sadly restricted. The use of popular educational publicity will go far to teach parents the necessity of obtaining competent medical advice immediately upon the appearance of fever, pain, digestive disturbance or acute symptoms of any kind in little children. To the adoption of such advice we may attribute the reduction of infectious diseases. A type of direct, practical advice to the public is given in an extract from a circular of information. When such advice has been given the most un-

expected and extravagant applications of it may ensue, as evidenced in many a family of children housed for weeks, often in tight-shut rooms, even in July and August. Up to the present there is no evidence that environment has any relation to the origin or dissemination of poliomyelitis. We have no specific diagnostic test, though the spinal fluid, a good history and definite clinical symptoms will, during an epidemic, even in the absence of paralysis, justify a positive diagnosis. In a disease so little seen or recognized in the past in general practice it is not uncommon to lose that agreement among physicians without which it is impossible to obtain public compliance with restrictions or professional cooperation with health officers. The prompt issue of leaflets of information to physicians early in the epidemic will enlist their cooperation and give the essential facts in a form ready for reference. Such a circular of information is given in the paper. Six weeks has been generally agreed to as a suitable isolation period dating from the day of onset, the only adequate basis for this being that, after six weeks infectious material has rarely been obtained from artificially infected monkeys. There are too many undetermined factors to draw conclusions upon the effect of hospitalization upon the distribution of poliomyelitis in New York, although our observations lead us to believe hospitalization decreases the case incidence of the disease. Health officers owe it to the practitioner of medicine to give him every facility to study the clinical phases of the disease. As to general measures of personal restraint directed to the abatement or prevention of an epidemic we are more at sea than in the field of individual quarantine. The identification of travelers is reasonable, but its incompleteness under modern conditions of traffic renders its advisability questionable. Of absolute quarantine I need hardly recall the instances of brutal inhumanity resulting from its application to counties, towns and states against each other. I know of no benefit from such measures, and I know of nothing which has developed such ingenuity in the violation of the laws and such whole-hearted disrespect for reasonable sanitary law. General reporting by the health officer at the point of departure to the health officer at the point of destination of travelers under the age of sixteen years would probably accomplish all that can be expected. While awaiting the receipt of the es-

sential information which will justify a logical and efficient administrative control of epidemic poliomyelitis, the health officer of any community can hardly do better than plan his campaign in accordance with the declaration of the American Public Health Association, which I have taken the liberty of quoting in full in the paper. As a matter of historical interest and to present the result of the experience of the Department of Health of the City of New York, the paper also gives the test of information for field workers, which describes the procedure in the various phases of work last summer.

DR. C. H. LAVINDER of the U. S. Public Health Service: In poliomyelitis not only is our knowledge of the mode of transmission imperfect, but we also lack means of accurate diagnosis and have only incomplete information regarding the incubation period of the disease. In a study of the mode of transmission of disease, laboratory research work and epidemiologic field studies should supplement each other, and their results should be in full accord. The United States Public Health Service in the recent epidemic of poliomyelitis desired to take an extensive view of the New York epidemic, taking New York City as its center, and studying the development of the disease in adjacent States. In order to obtain a cross section of the epidemic, we undertook the intensive study of cases in several places, the total number being more than seven hundred. While at this stage our studies do not justify broad conclusions, many factors indicate that poliomyelitis is a contact infection. From the study of spot maps it seemed quite evident that the disease followed travel routes; moreover, that the disease spread in waves from a center outward. It was also observed that parts of the population escaping the disease were composed of persons less in contact with the general public than others. These and other factors point strongly to the contact theory of the transmission of poliomyelitis. Spinal puncture is a method deserving much wider use in this disease than it has had. Poliomyelitis has been reportable in most of the States since 1909, since which time to 1914, inclusive, there have been 5239 deaths from the disease. There have been, probably, from 1909 to 1915, 40,000 to 45,000 cases. This year we certainly have had in the United States 35,000, with a much higher mortality, indicating that

the disease is likely to be one of our important epidemic diseases of childhood. In attempting to meet the difficulties it would seem wise to be perfectly frank with the public; then no one would expect the brilliant results which at the present time are impossible.

DR. WILMER KRUSEN, Director of Health, Philadelphia: From June 1 to December 1 of this year the total number of reported cases of anterior poliomyelitis in Philadelphia was 997; many abortive cases have not been reported, in which cases diagnosis is perhaps impossible. The total number of deaths is 297, a percentage of 29.2. Of the 224 patients treated at home, 125 died, a mortality of 53%; of the 763 treated in the hospital, 172 died, a mortality of 22.5%. It must be admitted that many of the patients dying at home were in a very serious condition when the disease was determined. Density of population, apparently, has no influence upon the incidence of the disease in a given locality. In the 22d Ward of the City, with a population of 10 per acre, had 78 cases; the 3d Ward, one of the so-called slum districts, with a population of 210 per acre, had only 10 cases. Regarding the onset of the disease, 51.4% of the cases occurred in August, 8.9 in July, 31.9 in September, 7.7 in October, 1.5 in November. The popular belief held at the beginning of the epidemic, that the colored race was immune, has not been borne out, since there have been 23 cases among colored children, with 8 deaths. Eighty-eight per cent. of children affected have been under six years of age. A thought, to me of special significance, suggested by the Chief of the Bureau of Health, is that of the diminution of 15 inches in the average rainfall of the present year.

DR. THEODORE H. WEISENBURG: We have had in Philadelphia an exceptional opportunity for studying infantile paralysis, having had about 800 cases in the Municipal Hospital, and in many instances also studied the localities and houses from which the patients came, of both the frank paralytic and the abortive types. In the beginning of my study I had no doubt of the contagiousness of the disease, but I now believe that the disease is not so contagious as either Drs. Flexner, Emerson or Lavinder believe. The best argument against contagiousness is the multiple instances of the disease occurring in the same family. We observed that when more than one person in the family was

stricken, the symptoms appeared within one or two days of each other. Our experience with the abortive cases was similar. It was not our experience that a number of persons coming in contact with the disease afterward developed it. Moreover, when the schools were opened in Philadelphia in September there was not an increased number of cases, as was expected, but the opposite, the disease gradually diminishing. Dr. Emerson's suggestion regarding the postgraduate study of the disease in municipal hospitals is a very valuable one. Should poliomyelitis reappear in Philadelphia, such opportunity should be given to every physician. I quite agree with Dr. Emerson regarding what he terms the brutal quarantine in the different cities and States. I am entirely opposed to interstate quarantine. To my mind nothing can be gained by keeping healthy children from their homes. I am strongly in favor of isolation of the individual patient. In my experience, lumbar puncture is practically the only therapeutic measure of value which we can employ, and the earlier its use the better is it for the patient. The average physician outside a large city fears to perform lumbar puncture, yet the quarantine measures absolutely forbid the patient being brought to the city, where such treatment can be given.

DR. THEODORE LeBOUTILLIER: Working with the cases of poliomyelitis as they came into the Philadelphia Hospital for Contagious Diseases, our first step was to do a lumbar puncture. This measure is not only one of the best methods of diagnosis, but also of treatment in this disease that we so far have. It relieves congestion, pressure, and, in many cases, pain, to a marked degree. To be efficient, lumbar puncture should be done frequently, as it may be demanded by each individual case. This may be once in 24 hours for some days, once a week, or once in two weeks. In a case studied by the physician in charge, it is frequently very easy to tell when lumbar puncture should be done,—the child complains of some pain, becomes restless, does not have a good appetite, and possibly has some headache; in nine cases out of ten lumbar puncture will relieve the condition. Of course the fluid should be studied for the cell count. Children, three and four months after the onset of the disease, who have recurrences of pain, irritability and restlessness, will be readily relieved if lumbar puncture is again done. Such a case

was seen three months after the original attack. Serum, I also believe, is helpful in many cases. Serum from the blood of patients who have had the disease some months or years previously, I feel absolutely sure, has saved the lives of some patients and very materially improved their condition. In other cases in which it has been given too late, in insufficient quantity, or in which it has not contained the antibodies expected, the results have not been so good. We have had practically no bad results where the serum has been given. We could not obtain enough of the serum to give routinely in the quantities desired. We have used a combination of adrenalin chloride intraspinally and the serum intravenously, and our results have been better than when only one or the other was used. It is to be hoped that during 1917 a serum may be produced which, if not so efficient as the diphtheria antitoxin, will at least be more helpful in the control of these cases than anything so far discovered. I would emphasize the importance of early diagnosis, the use of lumbar puncture both as a diagnostic and a therapeutic measure, and the importance of not being afraid to employ this method too frequently.

DR. G. G. DAVIS: Apart from the standpoint of the cause and spread of poliomyelitis, its management is important in that it casts upon the community a large number of cripples, with all the consequent deleterious effects. We who were familiar with the original type of the disease regarded it as an acute trouble for a few days with immediate onset of flaccid paralysis and abrupt cessation of the acute symptoms. The cases fell at once to the care of the orthopedic surgeons. As Dr. Flexner has said, the disease is not at present as it has been. We have now the acute onset, the convalescence and the chronic stage of the disease. The acute stage should be treated by the physician. He should have in consultation a person accustomed to guard against the oncoming deformity. Even inside of six weeks there should be provision made in a certain number of cases against the contractures which will probably occur. In the stage of convalescence, the family physician may be the attendant, and he will be confronted with a disease which to the most experienced in its special character is baffling. Let me urge that these cases be watched over by some one skilled in orthopedics and possessing an infinite degree of per-

severance and patience. My experience is that improvement does not cease at the end of two years, but that these patients continue to improve as long as we continue to work with them throughout a number of years. Apparatus is used for the prevention of deformity and to facilitate locomotion. Even when employed constantly it does not hinder in any way the recovery of the child. I know of no cases in which so much can be done as for patients such as these, in which the paralysis is often very marked.

DR. CHARLES K. MILLS: Especially referring to the question of the communicability of the disease, my views have been largely expressed in the remarks of Dr. Weisenburg. I believe the disease is one which we should term as an infectious disease, and probably somewhat or slightly transmissible by human contact. It is striking that Wickham, notwithstanding that he protests against the doctrine of insectile transmission and in favor of the personal contact theory gives scarcely a fact in connection with the environmental condition of the localities in which his hundreds of cases occurred. He spends much space in discussing the fact that the disease spreads along lines of travel, which argument is open to very evident objections. He describes the manner in which the disease radiated from schools regarded as foci, but fails to give us any facts, so far as I recall, regarding the condition of the schools, their environment and the condition of the house and the localities from which the children came. During this present epidemic, with an entomologist and others, I made many personal investigations of the localities in which the cases occurred, including between three and four hundred cases occurring in about twenty wards of the City and in Chester, Montgomery and Delaware counties. In 90% of the localities studied we were struck by the presence of unsanitation and insectile life. I look forward with great anticipation to the publication of the field work of the United States Public Health Service. In the vast majority of the 35 or 40 diseases caused by insects, the host, the carrier, and the nature of the disease have been largely revealed by good field work. Multiple cases in the Philadelphia epidemic occurred in a way which indicated that they were due to a common infection in the majority of cases.

DR. H. A. HARE: It is my opinion that we

shall never have control of epidemics until we have Federal control. I say this because of my observation made last summer. Orders were given in Rhode Island to quarantine against "suspected districts," meaning New York. At the time quarantine was established there was a larger proportion of cases to the total population in Newport than in New York, yet Newport was not quarantined. A health officer of the State warned the hotel-keepers that if such quarantine were instituted, business would be hurt, and appealed to them to do nothing to keep people out of Rhode Island. Had the state of Rhode Island been under Federal control, local people would have had no political pull to interfere with proper ordinances. The thing reached the height of absurdity when a certain number of inspectors were ordered to board and walk through trains and determine whether any of the children on board had poliomyelitis. Regarding the transmissibility of the disease the question arises whether some of our difficulties do not lie in the fact that the disease is transmissible only at certain periods of its existence. At one time we did not know that yellow fever was transmissible until after a certain stage of development.

DR. A. A. ESHNER: Admitting the fact of the occurrence of cases in which paralysis does not develop, we have here an explanation in part for the relatively slight susceptibility to the disease, inasmuch as there may be numerous cases of this sort, and we have learned that an attack of the disease confers immunity to subsequent attack. Also we may have here an explanation of the cessation of the disease through exhaustion of the soil. This fact further may have a possible bearing with respect to the future. On the basis of the statements that have been made, it may be found that in the ensuing year there will be even a greater degree of immunity to the disease than in the past, and it is therefore to be hoped that we may encounter a smaller number of cases next year than in the present.

DR. A. C. ABBOTT: With all due respect to the opinions that have been expressed upon the mode of transmission of this disease, I feel that the matter is still unsettled. The question of the seasonal occurrence of the disease has not been satisfactorily answered. While the charts exhibited show the maximum to occur about mid-summer and falling off toward early

autumn, and disappearing as cold weather advances, we have a notable exception to this in the epidemic in Sweden. I know of no natural law to which there is not an occasional exception, nor do I recall the circumstances surrounding the outbreak in Sweden in cold weather. I think it is significant that in Philadelphia a large majority of cases were in the parts of the city having the largest number of stables. Another interesting factor in connection with the epidemic is that, with the opening of the schools, although we were having from seven to ten new cases of poliomyelitis a week, there was no increase in the number of cases and that they have rather steadily diminished. With Dr. Hare, it seems to me that at the present time we occupy about the same mental attitude on the transmissibility of the disease as on that of yellow fever before we knew how it arises and is carried. I do not doubt that direct transmission occurs from person to person in poliomyelitis, or that we may have human carriers, but I do not believe that these are the only ways in which the disease is spread.

DR. JOHN A. KOLMER: Since the appearance of anterior poliomyelitis in Philadelphia, Drs. Freese, Brown, Matsunami, Meine and I have conducted investigations which have shown that a streptococcus and a diplococcus occur in a large percentage of cases of poliomyelitis in the brains and cords and in various internal organs. Our experiments have failed without exception to produce experimental poliomyelitis with these cultures. It appears evident to us that streptococci and diplococci are widely distributed in poliomyelitis, and at present we regard them as secondary invaders growing in symbiosis with the true organism in a manner analogous to the growth of streptococci in persons suffering from scarlet fever.

DR. EMERSON (closing): We have certain proved data upon this subject, but we are not yet ready to speak positively upon the matter. In New York we have had on Barren Island the most insanitary conditions, and of the 350 children there was not a single case of poliomyelitis. Under our modern control we consider the school as our main point in the control of communicable diseases of children and not as a site of communication. Our most exhaustive study of possible insect carriers showed that we could attach no suspicion to

this theory. Every case discharged from our hospital is followed by the Committee on After-Care, so that each case will be under the care of a competent orthopedic surgeon, usually in cooperation with a neurologist. The organization and supervision of this after-care work has been made possible by the generosity of the Rockefeller Foundation.

DR. FLEXNER (closing): In the matter of the mode of transmission of this disease I want to warn against being misled by analogies. Reasoning by analogy is notably unsafe, and I think it unfortunate that the analogy of yellow fever was raised this evening. Had it been possible to communicate yellow fever to a lower animal, we should not have had to wait for Dr. Reed and those self-sacrificing American soldiers and civilians to perform the experiment resulting in one of the greatest contributions to epidemiological research and sanitary science the centuries have produced. In the present instance, however, we are dealing with a disease that can be communicated to the monkey in all its forms,—abortive meningitic and paralytic. For the sake of conviction, we may for the moment throw out of consideration the abortive and meningitic types of the disease because they may in individual instances be open to question, but you cannot similarly disregard the paralytic example because it corresponds precisely with what is so commonly seen in human beings, and is everywhere recognized as the type of poliomyelitis, besides which the lesions in the monkey exactly reproduce those present in fatal human cases. In the study of transmission account must be taken of susceptibility and ability to trace the source of infection in large and actively moving communities. Since there is no doubt that the active agent of the disease is thrown off by the human body, our obvious duty is to use every measure to limit dissemination on the basis of established knowledge. Should fuller knowledge be obtained we must act upon that. But it is in the highest degree unsound to pursue a phantom and neglect that which is established.

Book Review.

Manual of Splints and Appliances for the Medical Department of the United States Army. Report of a Board Convened for the

Purpose of Standardizing Certain Medical Department Supplies. LIEUT.-COL. WILLIAM L. KELLER, M.C.; MAJOR ROBERT B. OSGOOD, M.R.C.; MAJOR ALEXANDER LAMBERT, M.R.C.; MAJOR JOSEPH A. BLAKE, M.R.C.; CAPTAIN W. S. BAER, M.R.C.; and CAPTAIN NATHANIEL ALLISON, M.R.C. New York: Oxford University Press, 1917.

This book is the outcome of a meeting of a board of medical officers appointed by Special Order No. 73, A. E. F., August 20, 1917, to investigate and report upon the advisability of standardizing certain appliances to be employed and issued by the Medical Department of the United States Army. The board met as directed and in its report recommended that in addition to standardizing the manufacture of splints and appliances, a manual describing their proper use be published and distributed to all United States Army medical officers at home and abroad. In accordance with this recommendation, the *Manual of Splints and Appliances* has been issued. It was unanimously decided by the board that the splints and appliances officially adopted by the American Army should be constructed with a view to efficiency and correct mechanical principles; that they should be simple of design and of low cost of construction, and easily transportable, so that an efficient splint may be applied at the front and cause no trouble until the patient reaches the base hospital.

The board has concluded that with the three types of wire-ring traction and counter-pressure fixation splints embodying the Thomas principle, the Jones "Cock-up," "Crab" wrist splint, the long interrupted Liston splint with adjustable foot piece, an anterior thigh and leg splint, Hodgen type, the Cabot posterior wire splint, the wire-ladder splint material, light splint wood, and plaster-of-Paris bandages and Bradford frames, treatment of all bone and joint battle casualties may be efficiently carried out at the front, and even at base hospitals. Therefore in this Manual the board recommends the use of these splints, and describes their construction and application fully, also discussing primary dressings and the line of mechanical after-treatment found most constantly to favor the healing of wounds, the union of bones, and the restoration of function. The board believes that it is the first duty of all surgeons to become familiar by actual practice in applying the splints to living models, with the methods which it recommends, the mechanical principles underlying these methods—namely, fixation and traction—and the details of the apparatus advised.

The manual is well illustrated with a series of 43 descriptive figures, which form a half of its substance, and has a number of blank pages for memoranda.

THE BOSTON Medical and Surgical Journal

Established in 1828

An independently owned Journal of Medicine and Surgery published weekly under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, MAY 30, 1918.

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SUBSCRIPTION TERMS: \$5.00 per year, in advance, postage paid for the United States. \$6.50 per year for all foreign countries belonging to the Postal Union.

An editor will be in the editorial office daily, except Sunday, from twelve to one p.m.

Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish one hundred reprints free to the author, upon his written request.

The Journal does not hold itself responsible for any opinions or sentiments advanced by any contributor in any article published in its columns.

All letters containing business communications, or referring to the publication, subscription, or advertising department of the Journal, should be addressed to

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THE NURSING CRISIS.

A PAMPHLET dealing with the nursing crisis, by Dr. S. S. Goldwater, has been published recently. It describes the efforts which are being made to satisfy the nursing requirements of the war, and suggests a way out of the difficulty. The Government's task of obtaining a nursing organization of 50,000 women to serve over 400,000 sick and wounded is a problem which has not yet been solved conclusively. The number enrolled at present is a little over 9000, about one-fifth of the total required. The difficulty lies in the fact that the country cannot spare the number of graduate nurses that the army requires, nor can the training schools produce new graduates in sufficient numbers to satisfy the needs of both the military and the civil population. Shortage of nurses has already become apparent in hospitals and private practice. To catch up with the military program, the enrollment of nurses for military service during the coming year will have to be

nearly 2000 a month. How is this to be done? The number of pupils now enrolled in the training schools of the country is approximately 40,000; these schools cannot turn out more than 11,000 graduates annually, and of these, it is estimated that only one-third will enter military service.

Efforts have been made to increase the supply of graduating nurses. A direct appeal has been made to the young women of the country to enter the nursing profession as a patriotic duty, but the results have not been satisfactory. Although a small proportion of the training schools are receiving applications in excess of their capacity, the majority are unable to obtain even their normal supply of pupils. In November, 1917, it was reported that training schools of the country were credited with an increase of 2600 over the previous year. This number, after more than six months of actual war and persistent efforts to increase the number of pupils in every part of the country, shows that industry, business, and professions are competing successfully for the services of women. Two suggestions which have been made are considered by the author to be perilous to the standards of nursing: the first is to lower temporarily the established requirements for admission to training schools; the second is that a sufficient number of "practical" nurses or attendants be added to army service. Another suggestion—that the Medical Department of the Army inaugurate training schools of its own—would have a disastrous effect upon civil hospitals and civil population.

Dr. Goldwater suggests as the best way out of the difficulty "the training of a large number of non-professional, voluntary war nursing aids, enlisted for the period of the war only, and composed of a class which will not take up nursing professionally under any circumstances, but which is willing to give gratuitous hospital service during the emergency." Such women can be obtained quickly and in large numbers, and civil hospitals stand ready to furnish the necessary training facilities. A standard course of training has been devised by a group of the most competent training school superintendents in the country. The American Red Cross has already given the theoretical part of this course to more than 10,000 women. Among the 1500 training schools of the country, there should be no difficulty in finding 300 which are capable of training twelve nursing aids per

month thereby providing the army with 50,000 nurses' assistants by July, 1919. These women belong almost wholly to the leisure class. They are the only labor reserves that the country possesses, and they can be brought into the nursing field without lessening the available supply of workers for any essential industry. These women are willing to serve, and should be prepared now, for in no other way can the war nursing problem be solved.

CIVIL AND MILITARY MORTALITY.

MUCH unauthoritative information has been circulated concerning the enormous mortality of modern warfare, particularly of this war. The mortality of medical men was placed at an extremely high figure, and may have been intended to discourage enlistments. No doubt that warfare has its mortality among all classes in military life, but the figures accepted have been refuted both by the American and the British authorities. Whatever increase in mortality there is in modern warfare as a result of the newer instruments of destruction and precision, is overbalanced by the enormous mortality from disease in more remote warfare. Moreover, modern military medicine, sanitation and surgery have accomplished wonders not only in saving life that would in previous wars have been lost, but also in rehabilitating the disabled. It is estimated that in the three and one-half years of warfare the total mortality has been about seven per cent.; for a year, about two per cent. The London Prudential Life Insurance Company gives the mortality from war at 30 per 1000 per annum. But the mortality in peace time among men of the same age is about 10 per 1000 a year. Deducting this to arrive at the actual war figures, only about 20 per 1000, or two per cent., die as the direct result of war. The tendency of military life is rather for a reduction of the mortality because of the discipline of the men and because a separate and important branch of the military life and military operations is concerned only with the life and health of the soldier. The drawbacks to the carrying out of sanitary principles or medical or surgical measures do not exist in warfare. In civil life, moreover, the mortality drops only where the community can take care

of the health measures without the necessity of individual coöperation. In this way typhoid fever has been reduced over forty per cent. by the improvement in the water supplies and sewage disposal of communities. On the other hand, there has been an increase of over one hundred and five per cent. in the mortality from the degenerative diseases, all of which may be justly ascribed to improper personal living and abuse. Included in this category are alcohol, syphilis, over-eating and sedentary life, over-work, etc. No community can properly control these. After pointing the way, the individual must be left to carry out the instructions. In military life, however, the individual is so much under control that almost every factor that would tend to an extrinsic increase of mortality can be controlled. The control of venereal disease and alcoholism in the warring countries, especially among the troops, is the best example in point. The carrying out of sanitary measures or the acceptance of prophylactic treatment against such diseases as typhoid or smallpox is not within the discretion of the soldier, with the result that typhoid is now hardly known in military life.

But while the military mortality is somewhat higher than the civil, when we contrast the military mortality with the infant mortality of communities in peace times we find a vast difference in favor of warfare. It is estimated that one-fifth of the infants die during the first year, and that it is not unlikely that one-half of the people born into this world die before they are 23 years. It is true that the reduction in infant mortality in recent years, from the control of infectious disease, from better prenatal and postnatal care of the child, and from a better adjustment of the feeding problem, has been large, so that the figures are continually in need of revision. Yet it is true that, whatever the actual statistics, about fifty per cent. of the diseases of infancy and childhood are preventable. The infant mortality is seven times the military mortality.

URBAN AND RURAL HEALTH CONDITIONS.

THE time-honored conception that the health, physical condition and longevity of the rural in-

habitant is better than the city inhabitant is not borne out by recent observations. No superiority was shown by military registrants from the country over those from the city. Indeed, the results of these examinations seemed to favor those coming from urban communities. Moreover, the general health of urban communities is far better than the rural. It is best in large cities and ranges down to the poorest in the smallest rural communities. Much of the health of a community is dependent upon the amount of money the community spends in the conservation of its health. No amount of individual effort in the direction of health can avail as much as a small amount of attention paid by the entire community to the health. Within certain limits, it is aptly said health is purchasable. It must be remembered that such diseases as typhoid fever, hookworm, malaria, etc., are essentially rural diseases. They not only keep the morbidity incidence of a particular certain rural community high, but, as in the case of typhoid, help to raise the morbidity incidence of communities remote from them. Much of the urban typhoid fever is of direct rural origin. The crude and unsanitary privy conditions do much to spread rural disease. Even as a mere inconvenience these form the greatest bar to country life. Fly life with all its evils flourish where open and unsanitary privies are used or where manure heaps are not protected. Probably the greatest factor in city health is its sewage system, something that even the larger towns cannot afford. The same applies to water systems. They are all matters of money, and unless such expenditures can be afforded, the health of the community must suffer. It is the wealth of the cities which makes these necessities possible.

The open air life of the rural inhabitant is, unfortunately, only a very limited affair—limited to the shorter or longer period of soil fertility. In the cold months his confinement is almost absolute. Bad roads and other conditions of country life make out-of-door life almost impossible. Whatever is gained in the summer is lost during the winter. The winter diet of northern farmers of the less affluent type is apt to be very poor in quality and much unbalanced. On the other hand, the benefits of country life in general, and particularly for the city man, cannot be overestimated. But the life of the city man in the country is not the same as that of the country man in his own surroundings. For the tubercular or the tubercular type

the country means a change from confinement to open air. It means a definite regimen with respect to food, rest and exercise. With him the change is the all-important element. No doubt country life is conducive not only to better health for the individual, but for the race, but not unless country life can be made sanitary, at least in the most essential points. Civilization demands now not only sanitation but some conveniences. Until the Public Health Service took up the work of rural sanitation, little was understood about the bad conditions obtaining in rural life. Many of these abuses are fast disappearing. Bringing rural sanitation to its logical conclusion must raise the standard of the race, because on the soil depends the life of the race. No marked movement back to the soil can be successful unless the sanitary conditions of the country are adjusted.

SURGERY IN THE AGED.

THE notion that age alone presents an insurmountable barrier to successful surgery is no longer held among progressive surgeons. The hesitancy of surgeons to operate upon individuals in whom there is apparently no other contraindication will work to deprive many of much-needed surgery, and in imperative surgery this hesitancy to operate often delays surgical treatment beyond the time when it can be of any value. It is unjust to deprive the aged of the benefit of surgery or to allow them to die from surgical conditions which in the young would not evoke this hesitancy. This dilatory method with respect to the aged is, in effect, euthanasia, and has, of course, no place in medicine. Age of itself is not a pathological condition; rather it is purely physiological. Unfortunately, however, age is very often accompanied by pathological conditions, but the degree of such pathological involvement need have no bearing on the age of the individual. In effecting surgical measures upon the aged it is necessary to consider only these accompanying pathological conditions in determining surgical risk. As a general rule, it can be said that the aged possess less vitality, their power of repair and regeneration is somewhat impaired, and that infection is more likely to occur in the less resistant tissues than in the young and vital. In any event

this difference between the young and the aged is relative only to the classes, and each individual case must be looked into on its individual merits. Hemorrhage must be guarded against in surgery of the aged because they have very much lessened power of regeneration of this tissue. When the aged patient has arteriosclerosis, cardiac, renal or other organic disease he is a poor risk not alone because of age, but rather because of these conditions. Besides, a patient with these degenerative conditions is much older than even his years.

A great deal of the surgical risk everywhere is embraced in the administration of the anesthetic. Here again, age is no special bar. Even heart lesions, when compensated, or albumin in the urine are no bar to well-selected and expertly given anesthesia. On the other hand, fatty heart, or myocardial change generally, or fatty or epithelial casts in the urine render anesthesia more hazardous. Chronic bronchitis is usually a bar to the use of ether, because of the tendency to pneumonia, but even this danger is very much lessened with the use of nitrous-oxid oxygen. However, in many where the bar to operative surgery is the administration of a general anesthetic, the high development of local anesthesia makes it possible to do them without incurring this danger. Well planned and rapid surgery, preceded by proper preparation and followed up with good nursing, reduces the hazard almost to the normal. It must be remembered that the aged represent the survival of the fittest, who must have lived a normal life to have reached age, and that their state of preservation and previous good constitution may overbalance any seeming disadvantages of old age.

MEDICAL BOOKS AND PERIODICALS AT CAMP DEVENS.

ON the last page of this issue of the JOURNAL, is published a request from Dr. Joslin for the gift of standard medical books and recent periodicals, which are wanted for the library of the Base Hospital at Camp Devens. These books and journals should be sent to the Boston Medical Library, whence they will be forwarded to Camp Devens, where they will be placed in rooms, the cost of whose construction is being privately paid by a lady, the wife of a physician in the service. These will constitute

a permanent home for the library, even after the present war needs of the camp are over. We cannot too strongly urge upon physicians the desirability of contributing modern books and recent periodicals, of date not earlier than 1915. They will be of genuine value and help to those of our profession who are bearing the medical burdens of the war, and will also afford evidence that we who stay at home are not forgetful of our small part or unmindful of our duty and obligation.

MEDICAL NOTES.

PROGRESS OF BIRTH AND DEATH REGISTRATION IN THE UNITED STATES.—The recent inclusion of Hawaii has extended beyond the limits of Continental United States, the area for which the Census Bureau annually collects and publishes death statistics. Within this area now reside about 73% of the total population of Continental United States and Hawaii. It comprises, in all, 27 States, 43 cities in other States, the District of Columbia, and the territory of Hawaii. East of the Mississippi the only States not included are Alabama, Delaware, Florida, Georgia, Illinois, Mississippi, and West Virginia; while west of the Mississippi the only States included are California, Colorado, Kansas, Minnesota, Missouri, Montana, Utah, and Washington.

The annual collection of death statistics from States and cities maintaining adequate registration systems was begun by the Census Bureau in 1902, the first report covering the calendar years 1900 to 1904, inclusive, and for each succeeding year a separate report has been published. The original registration area contained 40% of the total population of the country. It remained unchanged until 1906, since which year it has shown an almost uninterrupted increase in geographical extent and in proportion of total population, until at present it contains nearly three-fourths of the country's inhabitants.

In birth registration highly satisfactory progress has been made during the past two years, although there are still a number of States in which adequate death registration prevails, but in which the registration of births has not yet reached a sufficiently close approximation to completeness to justify the acceptance of the

local records by the Census Bureau. The birth-registration area, as at present constituted, comprises 19 States—the six New England States, New York, Pennsylvania, Maryland, Virginia, North Carolina, Kentucky, Ohio, Indiana, Michigan, Wisconsin, Minnesota, Utah, and Washington—and the District of Columbia. This area is estimated to contain about 51% of the total population of the country, as against about 31% when the collection of birth statistics was begun, a little more than two years ago, from an area comprising the six New England States, New York, Pennsylvania, Michigan, Minnesota, and the District of Columbia.

This growth, in so short a time, is very gratifying indeed. It is, however, unfortunate that in the United States the registration of vital phenomena has thus far depended, first, upon adequate state or municipal legislation, and, second, upon the adequate enforcement of that legislation. As a result, some States and municipalities maintain efficient registration systems while others do not. Until the matter is placed under Federal control or supervision it is not likely that reliable birth and death records, approximating completeness, will come into existence throughout the entire United States. Since the military registration of June 5, 1917, the desirability of maintaining such records has become apparent to all.

ST. MARY'S HOSPITAL.—St. Mary's Hospital, Rochester, Minnesota, has submitted its twenty-eighth annual report, for the year 1917. It includes a description of the hospital, its grounds and buildings, capacity, and equipment, its fire protection, operating rooms, heating, and ventilation. The Training School for Nurses is also described. The report of the Sisters in charge shows a total of 8,336 patients treated. The surgical operations are recorded. The report includes also an obituary of the consulting physician, Dr. A. W. Stinchfield.

LOOMIS SANATORIUM.—The twenty-first annual report of the Loomis Sanatorium, in Sullivan County, New York, for the treatment of tuberculosis, has been submitted for the year 1917. The report contains a brief description of the sanatorium, its location, grounds, and buildings. Changes in the administrative staff are recorded. The Treasurer's report shows that, in spite of the increase in cost of all commodities, careful expenditure has resulted in an

excess of revenue over expense. Outstanding indebtedness, however, is still a burden to the institution. The medical report shows that during the year, 354 patients have been admitted and 349 discharged from all divisions of the Sanatorium. Details of treatment are given. Amusements, gifts, donations, and the needs of the Sanatorium are mentioned. The report includes, also, a certificate of incorporation, an order for changing the name of the institution, a supplementary certificate for changing the time for holding the annual meeting, and the by-laws of the Sanatorium.

COST OF RADIUM.—The National Radium Institute and the Bureau of Mines have developed a more efficient process for the manufacture of radium out of the carnotite ores of Colorado and Utah. The bureau now has as its share more than \$180,000 worth of radium for use in the sciences; this was procured for an expenditure of less than \$38,000. The bureau has turned over to the National Radium Institute about six and one-half grammes of radium and has given to the country a method for producing pure radium compound from the ore for one-third the current price of radium. Everything in the laboratory to the experiment station at Golden, Colorado, has become so charged with radium that it is impossible to continue the accurate measuring of the radium. It has become necessary to obtain a room in one of the other buildings in order that this work may be completed.

CONFERENCE OF PUBLIC HEALTH OFFICIALS.—Important matters affecting the relations of the State and Federal health authorities to the conduct of the war will be considered at the annual joint conference of the United States Public Health Service with State and Territorial Health Officers, to be held in Washington, D. C., on June 3 and 4.

The sanitation of extra-cantonment areas, especially as related to the work of the State and local health authorities, will be one of the subjects on the program. Reports will be made as to the success of the coöperative arrangement, developed during the past year, for preventing the interchange of disease between civil and military populations.

Attention will also be given to the control of venereal diseases, cerebrospinal meningitis, typhoid fever, trachoma, hookworm, and pella-

gra in relation to the health of the military forces. Each of these diseases will be discussed separately; but all of the communicable diseases will receive more or less consideration in their relation to the public health during the war.

Other subjects will be: the relation to the public health of industrial hygiene and sanitation, especially in war industries; the care of the health of tuberculous soldiers on their return to civil life; the use of records of drafted men for public health purposes; effects on the public health of the forthcoming shortage in the medical profession.

Among the subjects not so closely related to the war are: the securing of better morbidity reports, and the question of pure water supplies for railroads. There will be reports of standing committees in regard to many of the subjects outlined above and in regard to the sanitation of public conveyances, rural sanitation, and increasing the efficiency of the conferences.

The sessions will constitute the 16th annual conference of State and Territorial health authorities with the United States Public Health Service.

WAR NOTES.

DEATH RATE IN ARMY CAMPS.—The death rate at National Army and National Guard camps last week was the lowest since last November. Total deaths were 162, against 168 the week before. There was an increase in cases of pneumonia and scarlet fever.

In the week ending May 10, 8 sick and wounded soldiers from the expeditionary forces in France were landed at American ports; the week before 148 were landed.

CARREL MADE COMMANDER OF LEGION OF HONOR.—Dr. Alexis Carrel, of the Rockefeller Institute, has been promoted to the rank of commander of the Legion of Honor by the French Government. M. Mourier, under-secretary of State for medical service, recalled Dr. Carrel's biological discoveries, his method of grafting bones, as well as his system of treating wounds.

BIRTH AND DEATH RATE IN GERMANY.—A report, compiled by the local Government Board of London, shows a fall in the birth rate in Germany during the three years, 1915-17, inclusive, equivalent to the loss of 2,000,000 infants. Forty per cent. fewer births occurred in 1916 than in 1913. These figures are compared with

a decrease of 10 per cent. in the birth rate in England and Wales.

The infantile death rate in Germany is 50 per cent. higher than in England and Wales. This fact has led to a large extension of infant welfare work in Germany. In 1913, the infant mortality rate in Germany was 151 per thousand, as compared with 108 in England and Wales. The rates in 1914 for Prussia, Saxony, and Bavaria were, respectively, 164, 173, and 193 per thousand. An abnormal increase in infant mortality in the first months of the war was shown by the fact that in Prussia, in the third quarter of 1914, the rate rose from 128 to 143; in Saxony, from 140 to 242, and in Bavaria from 170 to 239.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending May 18, 1918, the number of deaths reported was 242, against 252 last year, with a rate of 16.09 against 17.01 last year. There were 35 deaths under one year of age against 45 last year.

The number of cases of principal reportable diseases were: diphtheria, 76; scarlet fever, 31; measles, 308; whooping cough, 53; typhoid fever, 3; tuberculosis, 68.

Included in the above were the following cases of non-residents: diphtheria, 19; scarlet fever, 6; measles, 2; whooping cough, 1; tuberculosis, 4.

Total deaths from these diseases were: diphtheria, 6; measles, 4; whooping cough, 4; tuberculosis, 28.

Included in the above were the following non-residents: measles, 1; tuberculosis, 2.

MASSACHUSETTS DENTAL SOCIETY.—At the fifty-fourth annual convention of the Massachusetts Dental Society, an exhibit was held in Mechanics Building by manufacturers of dental supplies. Among the new things presented was a form of gold which is said to give dentists none of the annoyances they so often encounter in packing gold in small cavities. Miss Margaret Kay told the dentists of her observations in France of the wonderful facial reconstruction work that is being done. At the Councilors' meeting the following officers were elected: president, Dr. George C. Ainsworth of Boston; vice-presidents, Dr. William J. Simpson of Pittsfield; secretary, Dr. J. Arthur Furbish of Boston; assistant secretary, Dr. Albert

W. Day of Worcester; treasurer, Joseph T. Paul of Boston; auditor, Dr. C. Edson Abbott of Franklin.

THE NATIONAL PUBLIC SCHOOL SPEECH TEACHERS' ASSOCIATION.—A meeting of the National Public School Speech Teachers' Association was held at Fall River on May 9. Dr. Walter B. Swift, president, read papers which dealt with the medical, psychological, treatment, and educational aspects of speech correction. Dr. Swift also explained Cleveland's plan to spend \$10,000 annually to install his methods and systems in public schools. Other papers on "How Speech Drill Improves Grade Work," were read by Misses Elizabeth Self, Vera Allen, and Marguerite Franklin.

BILL INSURING "PURITY" OF VACCINE VIRUS.—At the hearing before the Committee on Public Health, which met to review the bill recently introduced insuring the "purity" of vaccine, many objections were raised. The opponents of the bill claim that, if passed, it would prevent vaccination. Dr. Ernst of the Harvard Medical School said that the passage of the bill would make it impossible to secure vaccine virus, for, "it is practically impossible to produce virus which does not contain other elements in addition to that element specifically desired." Claude Allen, of the Massachusetts Pharmaceutical Association, said that the law would impose hardship upon druggists, who do not know the quality of virus they sell. State Commissioners of Health McLaughlin and Kelley and Dr. Cody also objected to the bill.

President Woodward, of the Massachusetts Medical Society, presented a bill which provided that certificates of exemption should be required in the private and parochial schools and colleges as well as in the public schools; no unvaccinated child should be admitted unless a certificate proving his inability to submit to vaccination is presented. This legislation is favored by presidents of several colleges and many interested in parochial schools.

MASSACHUSETTS GENERAL HOSPITAL TRAINING SCHOOL FOR NURSES.—The annual report for the year 1917 of the Massachusetts General Hospital Training School for Nurses gives evidence of the pressure which the war has made inevitable. The most important event has been the organization of a Base Hospital, which was mobilized last June for active service in France.

It has been deemed advisable to send into army and navy hospitals only graduate nurses. One hundred and seventeen nurses have gone across to serve under British, Canadian or American Expeditionary Forces since the beginning of the war.

The School has been enlarged to meet the needs of the new private hospital opened last spring, and to render necessary aid in the far greater needs of this country and its Allies. Including those who are either graduates, pupils, probationers, affiliated, or post-graduates, the School has included 254 women. The Ladies' Advisory Committee has given efficient and valuable service throughout the year. During last summer, 74 "nurses' aids" were admitted to the wards for ten days' practice work, assisting nurses in their various routine duties. Because of the unusual demands upon its resources and the increased cost of hospital supplies, the need of increased financial support is felt in equipping young women to meet the needs of the world.

The report includes the names of those enrolled in Army Base Hospital No. 6, and a list of graduates and their present occupations.

BABY HYGIENE ASSOCIATION.—The ninth annual report of the Baby Hygiene Association has been submitted for the year 1917. It contains a statement of the purpose and methods of the organization. Statistics are given which cover the wards, the number of babies supervised, nurses' visits to homes, and the finances of the organization. In the past year the Association has rendered valuable service to the community by means of its fifteen infant welfare stations. The health of babies under one year of age is the primary concern of the Association; the work is being extended, however, by increasing the age limit in some sections. The organization is particularly interested in the National Campaign for Child Conservation. The work for the past year has been very successful, for the infant mortality rate for the city was the lowest on record.

FRAMINGHAM COMMUNITY HEALTH STATION.—The Framingham Community Health Station has published Monograph No. 1 of the general series dealing with the program of the Demonstration. It contains the members of committees and staffs, and an acknowledgment to the non-local agencies who have assisted in

special phases of the program. The main objects and activities of the Demonstration are summarized. Mention is made of the gift of \$100,000 by the Metropolitan Life Insurance Company, contributed for conducting a community experiment in the control of tuberculosis. The need of continuing the work through the period of the war is emphasized. The steps taken by the Demonstration are classified under three divisions: preparatory steps,—dealing with staffs and communities;—community diagnostic steps,—concerning the environment and the people themselves;—and community treatment. Thus far the health experiment has demonstrated the importance of sympathetic coöperation from local and outside agencies, as a basis for community and social control over disease-producing factors.

HARVARD PROFESSORS PROMOTED.—The Harvard board of overseers have promoted three members of the medical faculty to full professorships. Dr. Richard C. Cabot has been elected clinical professor of medicine; Dr. Eugene A. Crockett, Le Compte professor of otology; and Dr. F. S. Newell, clinical professor of obstetrics.

QUINCY PROBATION SYSTEM.—A new plan in connection with the probation system has been put into effect in Quincy. Clinics are to be held in the probation officers' rooms on the third Wednesday of each month. They are designed to offer an opportunity for those working in the reconstruction of a family, where there is a problem of alcohol or drug involved, to consult with those in charge of the clinic and obtain expert advice.

POLIOMYELITIS CLINIC AT HAVERHILL.—Dr. Arthur A. Legg of Boston, assisted by twelve workers of the Harvard Infantile Paralysis Commission, conducted a public clinic at Haverhill for the local Board of Health. The fifty patients examined showed marked improvement as a result of the after-treatment which has been given them for eight months by the local health authorities. Haverhill is the first municipality in the State to furnish free after-treatment by trained workers.

DICKINSON HOSPITAL.—During a six days' canvass in Northampton, \$125,000 has been raised for the Dickinson Hospital.

TRAINING SCHOOL FOR NURSES.—Invitations are issued for the graduating exercises of the Training School for Nurses of the Boston City Hospital, to be held in the Cheever Amphitheatre, on Friday, May 31. There will be a reception from five to six o'clock at the Vose House.

TUFTS DENTAL CLINIC.—In a recent issue of the JOURNAL, we noted that the Dental Clinic at Tufts College Medical School had been destroyed by fire. The fire occurred on Sunday morning, and, though important damage was done, work in all departments of the Dental School was resumed on Monday and has continued in full force ever since.

CHILDREN'S PAVILION OF THE SHARON SANATORIUM.—The directors of the Sharon Sanatorium have issued invitations for a reception on Saturday, June 8, for the opening of the new Children's Pavilion of the Sanatorium. Trains leave the South Station for Sharon at 12.30, 1.45, 2.33, 3.29, 4.28 P.M. (Back Bay Station, five minutes later.) Return at 3.16, 5.03, 6.12 and 7.10 P.M. Carriages to and from the Sharon Station. Visitors wishing to drive by motor (20 miles from Boston) are advised to take the route *via* Mattapan Square, Canton Avenue (Milton), through Canton to Sharon. The Pavilion is intended to be a combined sanatorium and school for children under fourteen years of age who show symptoms of early pulmonary or glandular, non-surgical tuberculosis.

Children of parents with limited means only will be admitted. Applications to be made to Dr. Walter A. Griffin, Sharon, or Dr. Henry I. Bowditch, 86 Bay State Road.

LABORATORY FOR CANCER RESEARCH.—A new laboratory building for the Huntington Memorial Hospital for Cancer Research is to be erected, at an estimated cost of \$60,000. The basement of the addition will contain a vault for the storage of radium, for experimental work in radioactivity, and rooms for the installation of high-powered x-ray apparatus. There will be also a chemical laboratory, a clinical laboratory, a suite for the use of resident physicians, and a carpenter shop. On the first floor there will be waiting rooms for out-patient cases, large laboratories for bio-physics, rooms for x-ray and radium treatment, and a women's dressing room. The ground floor will be given up to laboratories of pathology and biology. The

top floor will be for the accommodation of the domestic service of the hospital. Work on the addition will be delayed by the war. Dr. Robert B. Greenough is the surgeon in charge of the hospital.

The Massachusetts Medical Society.

NOTES FROM THE DISTRICT SOCIETIES.

DISTRICT CORRESPONDENTS.

Berkshire, A. P. MERRILL, M.D., Pittsfield.
Bristol North, ARTHUR R. CRANDALL, M.D., Taunton.
Bristol South, EDWIN D. GARDNER, M.D., New Bedford.
Essex North, T. N. STONE, M.D., Haverhill.
Essex South, H. P. BENNETT, M.D., Lynn.
Hampden, LAURENCE D. CHAPIN, M.D., Springfield.
Hampshire, E. E. THOMAS, M.D., Northampton.
Middlesex South, WILLIAM C. HANSON, M.D., Belmont.
Norfolk South, DANIEL B. REARDON, M.D., Quincy.
Plymouth, ALFRED C. SMITH, M.D., Brockton.
Worcester, ERNEST L. HUNT, M.D., Worcester.

BRISTOL SOUTH DISTRICT MEDICAL SOCIETY.—The annual meeting of the Bristol South District of the Massachusetts Medical Society was held at the Public Library, New Bedford, Mass., on Thursday, May 9, 1918, at 5 p.m.

Lieutenant Patrick Manning, M.R.C., of Camp Devens gave us a talk on "Military Medicine."

The following officers were elected:

President, J. A. Barrie.

Vice-President, E. D. Gardner.

Secretary and Treasurer, A. J. Abbe.

Councilors: E. F. Cody, C. F. Connor, A. B. Cushman, W. A. Dolan, R. W. Jackson, A. C. Lewis, A. H. Mandell.

Censors: W. A. Dolan, W. E. Blaine, W. T. Learned, C. J. Leary, S. V. Merritt.

Nominating Councilor, C. F. Connor. Alternate, R. W. Jackson.

Commissioner of Trials, W. E. Synan.

After the meeting we had a dinner at the Wamsutta Club.

We have had 14 or 15 men join the M.R.C. out of a membership of about 65. I think we have about 30 men in the town who have joined the M.R.C., not all of these belonging to the Massachusetts Medical Society.

EDWIN D. GARDNER, M.D.

HAMPSHIRE DISTRICT MEDICAL SOCIETY.—The annual meeting of the Hampshire District Medical Society was held on May 9, 1918. The following officers were elected for the ensuing year:

President, H. G. Rockwell, Amherst; Vice-President, W. A. Adams, Northampton; Secretary, C. T. Cobb, Northampton; Treasurer, J. G. Hanson, Northampton; Librarian, F. E. Dow, Northampton; Correspondent, C. T. Cobb, Northampton; Commissioner of Trials, J. G. Hayes, Williamsburg.

Censors: A. G. Minshall, Supervisor; S. A. Clark, Northampton; J. G. Hayes, Williamsburg; N. C. Haskell, Amherst; C. A. Byrne, Hatfield.

Councilors: A. G. Minshall, Northampton; J. G. Hanson, Northampton; O. W. Cobb, Easthampton; the President, ex-officio.

Councilors for Nominating Committee: A. G. Minshall, Northampton; J. G. Hanson, Northampton, alternate.

C. T. COBB, *Secretary and Correspondent.*

Miscellany.

MEETING OF STATE COMMITTEES OF THE MEDICAL SECTION OF THE COUNCIL OF NATIONAL DEFENSE.

In a recent issue of the JOURNAL, we published a report of the annual meeting of the General Medical Board of the Council of National Defense, at Washington, D. C., on Sunday, May 5, 1918. The following report of the meeting on Saturday, May 4, of the State Committees of the Medical Section, in conjunction with the State Activities Committee and the General Board, has been issued from the Government printing office. At this meeting the JOURNAL was represented by Dr. Walter P. Bowers of the Advisory Committee, and by the Editor-in-Chief.

"Three hundred physicians and surgeons, members of the State and County Committees of the Medical Section of the Council of National Defense, representing every State in the Union except one, met at the New Willard in Washington on Saturday and Sunday, May 4 and 5, called together by Dr. Franklin Martin, chairman of the General Medical Board of the Council of National Defense.

"Attention was focused on two important subjects: Increased enrollment in the Medical Reserve Corps of the Army and Navy; definite plans for the enrollment in the Volunteer Medical Service Corps of those physicians not available for active military service to meet the medical needs of the whole nation; and, in particular, to provide adequate medical service for our great war industries.

"Pleas for the immediate enrollment of 5,000 additional members of the Medical Reserve Corps of the Army, and 1,000 for the Naval Reserve Force, were made by Surgs. Gen. Gargas and Braisted. Members of the State and County Committees were urged to increase their activities as the authorized governmental agencies for the mobilization of the nation's medical resources.

MORNING SESSION.

"The meeting on Saturday morning was called to order by Dr. Franklin Martin, chairman of the General Medical Board, who called to the chair Maj. Edward Martin, of Philadelphia, chairman of the State Activities Committee.

"The Council oath of office was administered to members of the State committees, confirming them in their official capacity as the authorized representatives of the Council of National Defense.

"In his address of welcome Maj. F. F. SIMPSON, vice-chairman of the board, called attention to the fact that one year previous to the entry of this nation into the war, a national committee on medical preparedness was organized, and under its direction the State and County Committees were called into service, these State and County Committees being taken over as a part of the Medical Section of the Council of National Defense upon the organization of that body.

"Surg. Gen. GORGAS spoke of the organization of the Medical Reserve Corps and its expansion during the war, until it now includes 20,000 members through the activities of the Medical Section of the Council of National Defense; expressed his appreciation for the great work already accomplished and in anticipation of its continued activities along the same lines, which would insure an ever-increasing supply of men for the Reserve Corps. He called attention to the immediate need for 5,000 additional men in the Reserve Corps and stated that he had just received a pressing call from Gen. Pershing, asking that 500 medical men be forwarded immediately to France. 'If the men will come in now,' said Gen. Gorgas, '500 will stand the chance of going to France at once, and as there will be numerous requests, nearly everyone can go to France. A few good men must always remain on this side. I am glad to express my gratitude for the assistance you are going to give us in the next two or three months.'

"Admiral BRAISTED urged the needs of the Medical Reserve Corps of the Navy. 'Needs not quite so large as the Army's, but just as necessary. What we need is a gradual, constant influx of splendid medical personnel to meet the needs of our service. The work seems greater than it did a year ago. More and more the work is expanding and growing into new fields. We shall need in this new year every bit of help we can get. This great Council of National Defense stands as the leading organization to help us in our work in the war.'

"Mr. W. S. GIFFORD, Director of the Council, referred to the legal authorization of the work of the Council, that 'it was to create a relation that would bring about in time of need the immediate concentration and utilization of the resources of the nation. We have considered

that it included the medical resources of the nation as well as industrial and other resources. In Washington we would have a directing and guiding agency, but that the work must be done by the people of the country.'

"Mr. JULIUS ROSENWALD, member of the Advisory Commission, expressed his appreciation of the work of the medical men of the nation. 'I believe no people are making a greater sacrifice than the physicians of this country. They deserve, as I have said frequently, the appreciation of the public and the nation more than any other branch.'

"Col. CALDWELL, of the Surgeon General's Office, presented figures as to the number of medical men in active service in the various corps: Medical Corps, 843; Medical Reserve Corps, 16,552; Medical Corps, National Guard, 1,027; Medical Corps, National Army, 114. He congratulated the profession upon the fact that this 'aggregate of medical officers had been contributed to the Medical Department of the Army by purely voluntary effort. It is the desire of the Surgeon General of the Army, in so far as the medical profession will consent to, and will volunteer to do, to mobilize the medical personnel of the country for the purpose of our military uses. This will best be accomplished by all medical men who are able-bodied, who are professionally competent, and who can leave their civil activities without sacrificing the activities of the community, industry or corporation to come into the Reserve Corps voluntarily and accept commissions. If this were done, it would be a simple matter for the Surgeon General to officer properly the military medical forces with competent medical personnel. It would make the task of the Council of National Defense and the different Surgeons General very easy in taking care of the civil communities wherever they may be in need of competent professional assistance.

"The Personnel Division of the Surgeon General's Office has arranged to have at convenient places—has about completed the arrangement in every State of the Union, including the Capital—examining boards for applicants for commissions in the Medical Reserve Corps. With this understanding and your efforts when you return home to your activities in the different States, the Surgeon General feels confident there will be no question as to the securing of 5,000 additional medical officers for the Reserve Corps in the next few months.'

"Medical Inspector MURPHY explained the need for a large increase in the Navy Medical Corps. 'At one time last year we found we had sufficient medical officers for our needs. At the present time, despite that forecast, we find that we need more, and it is hoped that you gentlemen of the State Committees of the Medical Section of the Council of National Defense will help us to obtain this additional medical per-

sonnel. We need a thousand, we calculate, for the coming year. It is hoped that we will obtain, with your assistance, at least 100 a month so as to be safe. I would like to extend to you again on my part, as the Surgeon General has already done for himself, our appreciation in the Medical Corps of your efforts in our behalf, and trust that the future will bring to us your kind assistance once more. At the present time there is a bill before Congress increasing the Navy, almost doubling it. We will require more men. All new ships built here and everywhere, that no one knows about, will need new men. From France we get the request in connection with the American Expeditionary Force from Gen. Pershing that more naval medical officers are needed.'

"Maj. JOHN D. McLEAN spoke on the work of the States Activities Committee, referring to the organization of the State Committees a year previous to the entry of this nation into the war and their inclusion in the Medical Section of the Council of National Defense upon its organization. He reported in detail the service rendered by the Committee to the Surgeons General of the Army, Navy, and Public Health, in securing detailed information as to men available for membership in the Medical Reserve Corps and the enrollment of 20,000 medical officers during the past year. Through this Committee, in cooperation with the State Committees, has been disseminated a vast amount of information relating to every aspect of the nation's medical activities; in cooperation with the Provost Marshal General's office it has prepared rules of procedure for the organization of Medical Advisory Boards, it has aided in the selection of Medical Aides for the governors of the several States, and formulated plans outlining the specific duties of such Medical Aides.

"This Committee formulated the plans and inaugurated the Volunteer Medical Service Corps as authorized by the Council of National Defense. For membership in the Corps such physicians are eligible as would be accepted in the Medical Reserve Corps of the Army were it not for physical disability, over age, essential public need, essential institutional need, or dependents. Women physicians are eligible. The object of the Corps is to establish an emergency medical organization to perform, when required, such civic and military duties as are not provided for. State governing boards consist of the members of the State Committees of the Medical Section of the Council of National Defense, and from this board in each State are selected five men who act as an executive committee to pass upon applications for membership. Upon their recommendation, applications are passed to the Central Governing Board in Washington. Each member of the Corps, during active membership, is entitled to wear the insignia of the Corps, as authorized by the Council of National Defense.

"The officers of the Corps are as follows: President, Dr. Edward P. Davis; Vice-President, Dr. Henry H. Sherck; Acting Secretary, Dr. John D. McLean. The Central Governing Board includes the above-named officers: Dr. Edward H. Bradford, Dr. Truman W. Brophy, Dr. Duncan Eve, Sr., Dr. William Duffield Robinson, Dr. George David Stewart, and ex-officio, Dr. Franklin Martin and Dr. F. F. Simpson.

"Dr. EDWARD P. DAVIS, of Philadelphia, spoke of the purpose of the Volunteer Medical Service Corps. 'Would it not be a source of inspiration, gratification, and pleasure if we were organized in the service of our Government, and if we had something to show for that organization? Those of you who are on Medical Advisory Boards for the selective-service enlistment have been doing splendid work which is typical of this class of men. Others of you are teachers in medical colleges. Others are holding positions in great city hospitals, where their absence would leave the hospital sadly crippled. There are many activities along the lines of executive, educational, and institutional work, and other things in which we can serve. You may be asked to go to a neighboring camp as consultant. During that work you will be cooperating actively with the Government, and you will have an insignia worn in your buttonhole, and this will identify you as an officer of the United States Government upon temporary active duty.'

"Dr. HARRY M. SHERMAN, of San Francisco; Dr. H. H. Martin of Savannah; Dr. Charles E. Kahlke, of Chicago; Dr. J. A. Witherspoon, of Nashville; Dr. Rock Sleyster, of Wauupun, Wis.; and Dr. George D. Stewart, of New York, told of the progress of the work of the State Committees of their several States.

"Dr. FRANKLIN MARTIN spoke feelingly of the situation in England and France and their great need of doctors, and of the work of the American surgeons in the war zone.

"In those hospital clearing stations back of the lines, our men—men who were in this fight early and were over there first—the best men we have—are working two shifts from 12 to 12. Do they stop at the end of the shift? No, they work from 12 to 12 and then go on. They sleep three or four hours and then go on again. For a half mile outside of these hospitals, men are waiting to be operated upon. They send out the orderlies and tell them to bring in the worst. That is the job "over there."

"Do you realize that the Government did better than it knew and that Congress probably did better than it knew when it passed the law establishing the Council of National Defense? When war came on, fortunately, we had a little part in that Council of National Defense. What was our first thing to do? To help the bureaus and departments to expand as rapidly as possible in preparing for the coming war, and when

war came, to expand still further those departments.

"You had been working one year before war began, under Dr. Simpson and Dr. Mayo. You had worked so well that as soon as the Council of National Defense was organized—at its first meeting—I asked them to take over this organization as the Medical Section of the Council, and from that time it became a part of the Council of National Defense. The resolution was passed, and at that minute you became just as much Government officers as though you had been receiving a salary and had a definite appointment. Do not think that the President does not know everything of importance that happens at each meeting of the General Medical Board, and everything of importance that is announced from the activities of these committees. He is deeply interested, as I know from conversation with him. He knows the subject from the beginning in April, 1916—a year before the war began—until the day before yesterday, and he regrets exceedingly that he is not here this morning to say how much he appreciates what you have done for him. He wants you to know that you are the authorized organization to carry on this work in connection with the departments of the Government. I quote from a personal letter:

"“Thank you for telling me of the approaching meeting of the State Committees of the Medical Section, Council of National Defense. Will you not be kind enough to convey to them, when they convene, a message of sincere appreciation from me of their services as authorized governmental agencies to the Army, Navy, Public Health Service, and American Red Cross, and of the part they have played in the preparation for war? Will you not at the same time convey to them my warm personal greetings?”

"And from another letter:

"“The papers which you submitted to me show a very impressive and valuable activity on the part of the Committee on Medicine and Sanitation of the Council of National Defense, and I want to congratulate you and your associates on the committee for the vigorous activities you have shown in this important matter.

"“The Council of National Defense and the Advisory Commission were authorized by Congress for the clear purpose of bringing about exchanges of opinion on fundamental problems, and it seems wise to continue the excellent work done by the committee legally constituted for the purpose without attempting to replace or duplicate, if not to confuse, its counsel.”

"In organizing these committees and the original committee that became the General Medical Board we have insisted upon only one thing, that any organization anywhere could suggest members to the General Medical Board, and if those members were approved by the

General Medical Board they would be accepted as individuals and not as members of an outside organization, because as soon as they became members of the General Medical Board, and as soon as you became members of the State Committees of the Medical Section, you become Government officials.

"The one thing we have gotten you here for more than anything else is to change your attitude from that of complacency to that of the man who is at the front and has gotten up his wind for the fight. When you go back home, get the members of your committee together and do the work we want you to do as promptly as possible, and convey the results to us as promptly.”

AFTERNOON SESSION.

"Dr. EDWARD MARTIN, Chairman: The purpose of this meeting is to justify our existence. At the meeting in Chicago last fall, attended so largely by you, there was probably more constructive work done than at any medical meeting in this country, and the plans there suggested have been going on steadily every day since. First, we wish to formulate a plan by which we may deliver to the Surgeon General of the Army 5,000 medical men before the first of July, and probably many more within the next year. To do that requires much wisdom, much time, and an absolutely concentrated effort on the part of everyone of us. The first 5,000 will be easy. The next 10,000 will be most difficult. But you men can do it. It is our feeling that the only way we can get men is man to man, from you to them. Your Central Committee met yesterday and laid out a tentative scheme upon which we want your constructive criticism and help. We feel that if we can get together on this matter we can give the Surgeon General the men he wants, and the tentative scheme is this: That each State Committee, with the help of the County Committees where this seems desirable, take their tabulated lists of the profession in their State and select from that list twice as many men as will be wanted in this first call, and notify each one of those men, preferably by personal interview by the Chairman, or by interview on the part of one of the County Committeemen, or if not that by letter, telling, in the first place, of the broad, general need, and, in the second place, of the immediate, pressing, and urgent need, and, in the third place, that he has been selected by the State Committee as the man to apply at once for a commission and subject himself to the orders of the Surgeon General. That seems a simple, comprehensive way, and seems perhaps applicable to this whole country. The problem is different in each State, and each State must settle it for itself.

"Suppose the man refuses. What is your next step? We will then ask you to send his name to the Committee's office in Washington.

He will then receive a direct appeal to enlist because you have said he should. Suppose he refuses. We have nothing more to say, but we believe that any man who after that refuses to go into the service will find hell a more comfortable place. So you have them. At the first no violence but the kindest treatment, but if needful I have the greatest confidence in the medical profession. We want no such man among us. It is needful that these men should receive certain definite information in regard to the requirements, the cost of equipment, salary, chance of advancement, and that has been formulated and will be sent to each one of you. We believe that every man between 21 and 31 should be in the service of the United States. If one of our profession has been taken in the selective service and put on the deferred list because of dependents, that is no impediment where enlistment in the Medical Reserve Corps is concerned. Nor has any man under 31 the right to be so prosperous that he can do much better by himself than the United States can do by him financially. We are after them. Our honor is involved. Our duty is to get them, and you will do it.'

"Thereafter followed a lively discussion of the numerous problems arising out of the work of the State and County Committees. The difficulties that have arisen in certain States with regard to the examination of applicants for the Medical Reserve Corps will be solved by a new plan of the Surgeons General for increasing the number of medical examiners and stationing them at a larger number of convenient points in each State, as explained by Col. Caldwell. The complete details of this plan, including the location and personnel of the examining boards, will be forwarded to the State Committees.

"It was explained that under the present law the examination of applicants for the Medical Reserve Corps must be made by commissioned officers of the Medical Corps or Medical Reserve Corps. Suggestions that members of the Volunteer Medical Service Corps might be authorized to conduct such examinations, thereby relieving men for active service, brought forth a lively discussion and will be considered by the Committee.

"Methods pursued in various States to secure complete data as to available men for active service were explained and discussed, as well as methods adopted to secure enrollment. Publicity in the newspapers was suggested as a most effective means. The quota of men desired from each County having been determined by the State Committee, the figures should be published in comparison with the medical population. These facts having been brought to the attention of each community, public opinion will supply the needed influence.

"In answer to many questions concerning service in the Medical Reserve Corps, such as rank, pay, special work, etc., the State Activi-

ties Committee has had printed a 'List of Questions and Answers' which is to be distributed through the State and County Committees. Copies of the pamphlet on War Risk Insurance, as issued by the Treasury Department, may be had on application to the Committee's office in Washington.

"In reply to many questions as to the status of a physician under 31 years of age who had not received a commission in the Medical Reserve Corps because of physical disability and afterwards drawn into military service by the local advisory boards, it was pointed out that where such a physician had been sent into a camp and accepted by the surgeon in charge and enlisted as a soldier, he should notify his superior medical officer that he has applied for a commission in the Medical Reserve Corps. He will then be reexamined and the Surgeon General will give him a commission even if rejected by the medical examiner, except that he might be rejected on moral grounds. Col. Caldwell, of the Surgeon General's Office, stated that 'In every instance where a man has been actually enlisted in the army as a private the Surgeon General will commission him in the Medical Reserve Corps.'

"Senator OWEN of Oklahoma was introduced. 'It gives me a peculiar pleasure to have the opportunity of paying my respects to you and to your great profession. Nearly all of my people are surgeons and I have always taken a very lively interest in the profession.'

"In the matter of preserving the lives of the young men we have drawn from the American homes and have sent to defend liberty and righteousness and humanity on the battle fields of Europe, I think it would be impossible for us to take too good care of them. For that reason I have particularly interested myself in having the organization of the Medical Department of the Army and the Medical Reserve Corps given the dignity and rank and position which will enable them to render the service which is required at their hands. In appearing before the subcommittee a day or two ago presenting the argument, I called attention to the fact that the organization of the Medical Department of the Army had by statute one brigadier general, who, during the life of Gen. Gorgas, should be a major general, but when he passes from this terrestrial sphere of usefulness, it will be as a brigadier general if the law stands. Under that organization in this war, under our present quota of troops, under Gen. Gorgas will be 20,000 officers, 50,000 nurses, over 200,000 enlisted men, probably 500,000 beds, allowing one bed to every four soldiers as the peak load, as we must be prepared for the maximum and not the minimum. We can not average the casualties of battle, but this great force, under the present organization of the Medical Department of the Army, omitting what the General Staff might be good enough to recommend to the President of the

United States in regard to the Reserve Corps, is one general officer. I presented to the committee the organizations of the medical departments of the French Army, the British Army, the Japanese Army, and of all of the armies of the civilized nations of the world, but those three nations I refer to now have in general officers in the medical organization of those armies an average of more than twice as many as I have sought to obtain in the organization of our own Army. Some men are thoughtless enough to think that in asking for these general officers it is a contest of individuals for rank. It is not a contest of individuals for rank. I do not regard the rank of major general as conferring any additional dignity upon Crile or Mayo. The value of these dignities is to enable the men charged with gigantic responsibilities and preservation of men the ability to discharge their functions better.

"I called the attention of the committee to the fact that one civilized nation after another had found it necessary in organizing the medical departments of their armies to give more than twice as many general officers as is sought for in this bill now desired for the better organization of our Medical Department. Will you forget, and will the country forget what occurred at Chickamauga under that dear old general officer, Brooke, the good old American soldier, but who had about as much knowledge of typhoid fever as a Kamechatkan has of the internal constitution of the ecumenical council? You may remember that one-quarter of his entire command had typhoid fever, that nearly a thousand picked, healthy, strong, fresh young men died of typhoid fever in that camp. Why? Because the medical officer in charge had no rank; because the line officer in charge disregarded the earnest, repeated recommendations of the medical officers who were without rank. That is why, and the young men died like flies. The medical officers made the right recommendations, but the officers of the line could plead as an extenuating circumstance that they were entirely ignorant of what would happen if they disregarded these orders. The line officer is left responsible for the health, without any moral or ethical responsibility, and can not be punished under the organization. If a line officer could be held before a military court-martial when men died under his command, it would be a far better method of organization."

"I want to say to you briefly that I believe now that the committees of Congress have at last understood that this desired organization of the Medical Department of the Army was for the sole patriotic purpose of saving the lives of the American soldiers, and the responsibility is now on the members of that committee, and on the Senate and House. I believe they will discharge their responsibilities wisely and well, if you give them proper attention."

The Owen-Dyer Bill was described and dis-

cussed at length in the issue of the JOURNAL for May 9.

In the evening, a dinner was given at the Army and Navy Club to the General Medical Board and the members of the State and County Committees. Dr. Franklin Martin was toastmaster, and Dr. Edward P. Davis, of Philadelphia, the principal speaker. Addresses were also made by General Gorgas, Admiral Braisted, Col. Frank Billings, Majors F. F. Simpson, W. D. Haggard, and W. W. Keene.

A later report from Washington on May 12 describes the initial steps since taken for the organization of the Volunteer Medical Service Corps, by the sending out to all physicians ineligible for camp or field duty a circular letter in part as follows:

"The Council of National Defense has authorized and directed the medical section of the Council to organize the physicians of the country who are ineligible for membership in the Medical Reserve Corps on account of physical disability, over age (55), civic or institutions needs, into the Volunteer Medical Service Corps. The members of this corps will be classified according to their ability to serve and will render aid to existing governmental agencies upon request of the Army, Navy, Public Health Service and Red Cross or the Council of National Defense.

"It is hoped that every physician who, for any one of the reasons enumerated above, is unable to enroll in the Medical Reserve Corps will join the Volunteer Medical Service Corps.

"The blank provides for details as to reason for ineligibility to the Medical Reserve Corps, as to educational and professional experience and other details. The fact is also recognized that rejected applicants for service in the Medical Reserve Corps may overcome the physical defects that led to rejection, and may, therefore, become eligible.

"The procedure for joining is simple. The applicant returns his filled blank to the central governing board in Washington, and it is then referred to the proper state executive committee for its recommendations as to the qualifications of the applicant, and as to the kind of work for which he seems most fitted."

Correspondence.

ADDRESS BEFORE THE GOVERNOR OF NEW YORK AT THE HEARING ON THE BILL FOR A NARCOTIC DRUG COMMISSIONER, BY JOHN P. DAVIN, M.D., REPRESENTING THE FEDERATION OF MEDICAL ECONOMIC LEAGUES, THE AMERICAN MEDICAL SOCIETY FOR THE

**STUDY OF ALCOHOL AND OTHER NARCOTICS,
THE ASSOCIATION FOR MEDICAL DEFENSE,
BRONX COUNTY MEDICAL SOCIETY.**

Mr. Editor:—

We object to this law because it destroys the obligation of professional secrecy between patient and physician, in common with that of counsel and priest. It limits the discretion of administering opium beyond what is considered a reasonable quantity by a lay commissioner, or of dispensing more than two grains of morphine except under regulations irksome, if not impossible, of observance.

It permits the possibility of a revocation of the license granted by the State to the physician for an offense committed by him which, if committed by a lay peddler of drugs is punishable only as a misdemeanor. It permits the commissioner to make rules and regulations under a complicated system impossible of observance by the physician in active practice, which shall have all the force and effect of statute until modified or rescinded.

It permits the commitment, on application to a magistrate, of anyone using opium, not under the direct care of a physician. There are many such persons, normal in other respects, who have to use opium. They could be proceeded against by interested parties from motives of a questionable character. It would make the plea of drug addiction an excuse for those accused of crime, as under this plea they would obtain privileges of treatment which act as a stay of proceedings pending the trial of their cases.

There was no reason for including cocaine in this law. The present cocaine law makes the illegal sale of this drug a felony. It has worked well as it was drawn up by physicians, druggists and manufacturers, without the interference of the criminal authorities. This penalty is now reduced to a misdemeanor in common with the unlawful sale of opium.

We object because, according to the published statement of an assistant district attorney of New York City, this bill is the work of the New York State Magistrates and the New York Committee on the Drug Evil, the bench, the bar and the prosecuting attorney of New York City. According to the same authority, it was pronounced by a late member of the narcotic squad of the Police Department "a measure that was destined to establish the most perfect system for the control of narcotics that could be conceived."

I might also state that the *Medical World* is included in this category. Speaking as one of those who appeared before the commission as a medical witness, I beg to be excused from any responsibility for this measure, which those I represent heartily and emphatically denounce as revolutionary, unconstitutional, and inimical to the welfare of those to whom we minister in the discharge of our obligation as physicians.

JOHN P. DAVIN, M.D.

In connection with the above communication may be quoted also the following letter from Dr. Davin in a recent issue of the *New York Evening Sun*:

"If the public realized fully what is meant by the bill for a 'Commissioner of Drugs,' now before the Governor of this State for approval, there would be a storm of protest from the people as well as from the entire medical profession of New York.

"The bill practically puts the practice of medicine under the control of a lay commissioner of drugs. This is accomplished by the clause compelling a registration of physicians in order to prescribe opium and its derivatives, without the use of which no physician would be competent to treat disease in its commonest form. To the public it means the registration also of their names when the dispensing of what is deemed a reasonable amount of morphine is exceeded in the judgment of a lay official whose rulings of opinion have the effect of State law.

"For the first time the druggists have ceased to oppose the making of laws by the criminal authorities regulating the practice of their profession. This has been accomplished, as was shown at the hearing before the Governor, by the harassment of the police, to which they have been subjected and which they hope to escape under a Commissioner of Drugs.

"Under this dispensation they also hope to escape from the burden of the extortionate prices which they have been compelled to charge for the commonest prescription to compensate for the risk and the technicalities imposed upon them in compounding legitimate prescriptions.

"Senator Whitney, whose commission brought in this bill, is a druggist himself. He is the authority for the statement that many country druggists refuse to carry morphine in their stock, owing to the unescapable danger of dispensing it. Needless to say, this failure to live up to the responsibilities of their profession makes possible not only needless suffering but loss of life itself, in sparsely settled communities.

JOHN P. DAVIN, M.D.

"New York, April 29."

SURGICAL SYPHILIS IN THE EIGHTIES.

Mr. Editor:—

The following paragraphs are from Dr. A. P. Gerster's interesting book, recently published, entitled, "Recollections of a New York Surgeon."

"With all the talent and learning possessed by the men of the Surgical Society of the eighties, one peculiarity was singular in some of them, not excepting the genito-urinary surgeons. This was their scant acquaintance with the protean forms of inveterate lues—forms which to this day are wont to masquerade among the uninformed as surgical cases. Amputations done on account of gummata mistaken for neoplasms were not very rare. One cause of this was the prevalence of curiously prudish notions regarding the practitioner's ethical attitude towards the 'shameful disease.' . . . The Wassermann test has done away with all this—since it has shown the malady lurking in some of our bluest blood, the taboo was graciously lifted."

Very truly yours,

WM. FRASER COUES.

31 Massachusetts Avenue,
May 17th, 1918.

NOTICE.

**MEDICAL BOOKS AND RECENT PERIODICALS
WANTED FOR THE LIBRARY OF THE
BASE HOSPITAL AT CAMP DEVENS.**

Major Elliott P. Joslin requests the gift of standard Medical Books and Journals, not earlier than 1915. He asks that these be sent to the Boston Medical Library, which will act as a Depository, where the material will be arranged and held until it can be forwarded to Camp Devens.

JOHN W. FARLOW, Librarian.

SOCIETY NOTICE.

THE NORFOLK DISTRICT MEDICAL SOCIETY.—A special meeting of the Society will be held at the home of Dr. Libby, 1060 Columbus Avenue, Tuesday, May 28, at 5 P.M. Business: Election of a councillor.

BRADFORD KENT, M.D., Secretary.

RECENT DEATHS.

Dr. O. M. BROWN, a medical practitioner of Everett, died recently at the age of 64 years, at his home, in that town.